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TCRP Report 14

Institutional Barriers to Intermodal Transportation Policies and Planning in Metropolitan Areas

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TRANSIT COOPERATIVE RESEARCH PROGRAM

Report 14

Institutional Barriers to Intermodal Transportation Policies and Planning in Metropolitan Areas

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TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions*, published in 1987 and based on a study sponsored by the Federal Transit Administration (FTA). A report by the American Public Transit Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of vice configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, the National Academy of Sciences, acting through the Transportation Research Board (TRB), and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

Research problem statements for TCRP are solicited periodically but may be submitted to TRB by anyone at anytime. It is the responsibility of the TOPS Committee to formulate the research program by identifying the highest priority projects. As part of the evaluation, the TOPS Committee defines funding levels and expected products.

Once selected, each project is assigned to an expert panel, appointed by the Transportation Research Board. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, TCRP project panels serve voluntarily without compensation.

Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended end-users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. TCRP results support and complement other ongoing transit research and training programs.

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The members of the technical advisory panel selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and while they have been accepted as appropriate by the technical panel, they are not necessarily those of the Transportation Research Board, the Transit Development Corporation, the National Research Council, or the Federal Transit Administration of the U.S. Department of Transportation.

Each report is reviewed and accepted for publication by the technical panel according to procedures established and monitored by the Transportation Research Board Executive Committee and the Governing Board of the National Research Council.

Special Notice

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FOREWORD

By Staff
Transportation Research Board

This report will be of interest to individuals involved in implementing the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), in particular, those involved in planning, approving, and financing intermodal surface passenger transportation projects. The report identifies institutional barriers to intermodal transportation policies and planning, examines opportunities for improvement, and provides ten strategies to mitigate current barriers and more effectively implement ISTEA.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) contains ambitious goals for the nation's intermodal transportation systems. The objective of the research was to develop strategies to overcome institutional barriers that hinder full achievement of these goals. The scope of this study included barriers related to planning, funding, operating, and implementing surface passenger transportation.

Under TCRP Project H-4C, Crain & Associates conducted research in four distinct stages as follows:

- **Identification of Barriers.** Available literature was reviewed, and structured interviews were held with 41 representatives of transit agencies, Metropolitan Planning Organizations (MPOs), state departments of transportation (DOTs), industry associations, and the U.S. DOT to identify institutional barriers that impede intermodal planning and decision making.

- **Prioritization of Improvement Opportunities**. A nationwide mail-back survey was conducted of 421 individuals responsible for intermodal planning at local, regional, and state levels to identify and prioritize opportunities for improving the intermodal planning process.

- **Implementation Forums.** Three implementation forums were held to learn about institutional barriers that exist in different parts of the United States and to document strategies identified by forum participants to overcome barriers. Each implementation forum was a 2-day, action-planning session, which included transportation planners at all levels of government and decision makers from the public and private sectors. The sessions addressed long-standing intermodal transportation planning concerns of Albuquerque, New Mexico; the Austin-San Antonio corridor in Texas; and Queens, New York.

- **Identification of Strategies**. Ten strategies, related to structure, procedure, and leadership were identified to overcome current barriers to more effective intermodal surface passenger transportation.

This report is a valuable resource for executives, decision makers, managers, and planners from transit systems, local governments, MPOs, state DOTs, the FTA, the FHWA, and organizations involved with intermodal transportation planning and committed to the fulfillment of the goals set forth in ISTEA.

Readers should direct initial attention to the Executive Summary prepared by the research agency. The full research report follows for those interested in the details of the research effort and all the findings.

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Clifford Chambers of Crain & Associates was the author of this report and is the current principal investigator. Mr. Chambers managed all research tasks, designed and analyzed the national survey, conducted 15 stakeholder interviews, participated in two implementation forums, and collaborated on the recommended strategies. Alan Winn, a former Crain & Associates employee and principal investigator, was a significant partner in developing this report. Mr. Winn conducted many of the stakeholder interviews, developed the initial topology of barriers, and participated in two of the implementation forums. The third key member of the research team was Tom Cooper of Pacific Consulting Group. Mr. Cooper provided the analytical tools for the national survey, facilitated the three implementation forums, and developed many of the recommended strategies. Crain & Associates employees Corinne Goodrich and Howard Der contributed to the technical content of the research. Tracy Johnson and Andrea Lajoie provided valuable production and research support throughout the project. Robin Bogott was the talented graphic artist responsible for the layout and graphics. Jill Donzelli, as the technical editor, enhanced the clarity of this material.

Dianne Schwager, TCRP Senior Program Officer, provided helpful guidance throughout the research. Richard Bickel of the Southeastern Pennsylvania Transportation Authority has actively participated in the project panel meetings and provided several helpful suggestions to an earlier report draft.

The authors would like to express their appreciation to the agencies and individuals who assisted with this project. Many individuals and agencies, too numerous to mention here, provided thoughtful comments on their experiences with intermodal planning and policies. Others volunteered significant time to help organize the three implementation forums and make the action planning sessions a valuable component of the research effort.

EXECUTIVE SUMMARY

"*Nothing endures but change.*" Although Heraclitus said this almost 2,500 years ago, it remains true of surface transportation practices in the United States today.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) heralded dramatic changes to federal transportation policy. Many in the transportation industry looked at these changes with considerable enthusiasm. The transit industry lauded its flexible funding and increased autonomy at the local level. A Dallas Councilmember summarized the expectations of many: "Contrary to the usual centralized one-size-fits-all federal practice, this legislation allows local and regional transportation agencies the flexibility and authority to design systems tailored to their specific needs."

The goals set forth in ISTEA represent an enormous step forward in transportation planning. Noted researcher Bruce McDowell summarized how the policy brought three, new, far-reaching philosophies into practice. ISTEA provides the following:

- Decentralized decision making by state and local governments;
- Strengthened connections to environmental policy, especially to the Clean Air Act; and
- New prominence to nontraditional goals and new stakeholders in the planning and decision-making process. (Goals now include international competitiveness, energy conservation, jobs and economic development, equality of access, and mobility for underserved and disadvantaged populations.) [1]

It is the policy of the United States to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the nation to compete in the global economy, and will move people and goods in an energy efficient manner.

–Section 2 ISTEA

Following their initial jubilation, however, many states, metropolitan planning organizations (MPOs), and localities have had difficulty using traditional transportation planning and decision-making practices to implement the intermodal planning principles promoted by ISTEA. Implementation of ISTEA has been further complicated by ISTEA's incongruity with the existing institutional structures of urban transportation planning, funding, and delivery systems. The literature indicates that transportation professionals believe there are too many layers of planning and decision making embedded in the existing transportation institutions and that the common result is inertia. Significant funding shortfalls and complex implementation regulations, moreover, have been cited as key inhibitors to successful intermodal planning. Some states and regions have made great strides in furthering intermodal planning principles; others have fallen short of expectations. Now decision makers at all levels of government are searching for strategies to overcome institutional barriers to intermodal planning.

An important goal in doing this research was to develop strategies to overcome barriers and achieve a national intermodal transportation system to improve surface passenger mobility. The research approach included four components. First, barriers to planning, decision making, funding, operating, and implementation were identified. Next, institutional barriers at all levels of government were assessed, regarding their individual significance and impact. Action planning sessions in three regions were then conducted to better understand the institutional dynamics needed to overcome these barriers in a real-world context. Finally, after looking at examples of successful intermodal planning, project personnel developed strategies to improve the institutional relationships necessary for a cooperative, coordinated approach to intermodal planning.

KEY REFORMS OF ISTEA

- Increased authorized spending by 28 percent.
- Doubled the authorization of transit and made many highway funds eligible for transfer to transit. Made the non-federal match 20 percent for most programs to remove any financial disincentive for transferring funds.
- Channeled metropolitan planning for transit through the states for the first time.
- Required new style of more detailed and more effective "performance" planning by the state DOTs and MPOs.
- Authorized $1 billion a year to support congestion management and air quality improvement.
- Used the fiscal capacity of recipients as consideration in non-federal match for certain fixed guideway transit capital investments.

Source: Bruce McDowell, "Reinventing Surface Transportation: New Intergovernmental Challenges," *Intergovernmental Perspective*, Winter 1992.

INTERMODALISM –A DEFINITION

A U.S. DOT working group defined the following as key elements of the intermodal approach:

- **Choice** among transportation options provided by competing modes, independently or in combination. (Choice also means that decision makers need to consider alternative systems to address transportation needs before investing in infrastructure.)
- **Connections** that provide convenient, rapid, efficient, and safe transfer of people or goods from one mode to another (including end point, pickup, and delivery) during a single journey to provide the highest quality and most comprehensive transportation service for cost. (This research focused on movement of people.)
- **Coordination and cooperation** among transportation organizations to improve transportation service, quality, safety, and efficiency across all modes or combinations of modes in an environmentally sound manner.

Source: R. Martinez, "Perspective from the Office of Intermodalism," *ISTEA and Intermodal Planning: Concept, Practice, Vision, TRB Special Report 240*, Washington, D.C. (1993) p.47.

The research included 41 individual interviews with MPOs, state departments of transportation (DOTs), federal agencies, and national transportation associations. A national survey of more than 400 MPO, state DOT, and transit agency stakeholders was conducted to identify those intermodal planning factors with the most promise for improving intermodal planning and policies. The action planning sessions or "implementation forums" were conducted in Austin, Texas; Albuquerque, New Mexico; and Queens, New York with decision makers and technical staff at all levels. After the stakeholders themselves developed specific action plans to address local institutional barriers, the research team conducted follow-up sessions at each of the three sites.

SECTION 2

INTERMODAL PLANNING AND POLICY BARRIERS

Three major categories of institutional barriers emerged during this research: organizational, interjurisdictional, and resource barriers.

The following sections (which reflect findings from the literature search, stakeholder interviews, and the national survey) describe the nature and complexity of these barriers.

ORGANIZATIONAL BARRIERS

The research showed that the *organizational legacies, regulatory processes and culture of many federal, state, regional, and local transportation entities impede the enactment of an intermodal vision.* These are discussed further in the following sections.

Modal Separation

For the past 30 years, the Federal Transportation Act had a strong modal focus. Accordingly, transportation agencies were organized around mode-specific planning, research, and funding. Funding programs and policies neither required nor encouraged modal integration of transportation plans or projects. The Interstate Substitution Program, allowing the use of federal highway funds for transit projects, was the one notable exception. Since ISTEA, there has been some movement toward restructuring at the U.S. DOT, but many state DOTs continue to plan and operate modes separately.

Recently, President Clinton and U.S. DOT Secretary Peña announced intentions to consolidate the federal surface transportation agencies—highways, transit, and railroads—into an Intermodal Transportation Administration. The effectiveness of this reorganization will depend, in part, on ensuring that different modal interests receive due consideration when mobility plans and transportation options are discussed. An executive at the FTA remarked that the challenge of intermodal planning is to "ensure that all modal contributions and options continue to be assessed equally."

The separation of modes continues to be a major concern for planners and managers at the local and regional levels. Transit agency isolation, insufficient intermodal planning guidance, complex regulations, and a prevailing highway preference were cited as examples of this separation. Many in the transit community have not been included in the transportation planning process. One official at a large western transit agency reflected: "How can transit be considered in the development of state transportation plans and projects if we aren't part of the family discussing projects or taking part in making funding decisions?" Although many transit agencies have been invited to participate in the local and state planning efforts, significant room for improvement remains, particularly in rural areas.

> *"As I seek to maintain patience with the ISTEA process, I continue to remind myself that the highway program has had 75 years to develop its universe and transit now almost 30 years. It will take more than a few years for the barriers between the two of them to fall and for the parties to become convinced that the issue really is mobility, not who gets to provide it."* –Louis Gambaccini, SEPTA

Regulatory and Legal Restrictions

When decision makers pursue an intermodal plan, they face complex federal funding procedures. Many state DOT, MPO, and transit authority officials said the FHWA and FTA are not organized to process intermodal projects efficiently. "The modal-oriented organization within the U.S. DOT does not facilitate the easy pursuit of intermodal project planning approval or funding approval," said a senior official of a southwestern DOT. Several officials told of having to split project elements along modal lines in order for federal funding requests to be considered. More-

INTERMODAL PLANNING AND POLICY BARRIERS

ORGANIZATIONAL

- Federal and state DOT structure separates modes
- Extensive modal orientation
- Inconsistent and complex federal regulations
- State laws that limit funding flexibility

INTERJURISDICTIONAL

- State DOT reluctance to share authority with MPOs
- Reluctance to form partnerships
- Insufficient track record
- Mobility solutions overshadowing mobility needs
- Poorly integrated land use and transportation decision making

RESOURCE

- Significant funding shortfalls
- Inadequate information on intermodal benefits
- Insufficient staff for intermodal planning

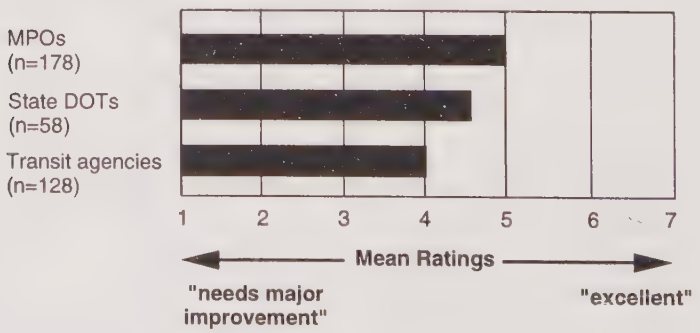
over, FHWA and FTA often interpret project eligibility differently. In one case, a state DOT, denied funding by FTA, submitted the same project to FHWA and obtained federal approval. In general, most stakeholders say ISTEA's implementation regulations are not working well. As summarized by the Secretary of a western state DOT, "Regulations to date are too much, too detailed, overly prescriptive, not realistic, sometimes extending far beyond the intent of the parent legislation..."

State and local laws also impede the implementation of intermodal projects. Maryland, Pennsylvania, Oregon, Georgia, and Missouri are some of the states with legislation that restricts the use of state gasoline and auto-related taxes to highway-related uses. Many of these restrictions stem from pre-ISTEA legislation. Several transportation planners remarked that similar prohibitions have even been passed by their state legislatures since ISTEA's passage.

Organizational Culture and Modal Orientation

Organizational culture develops through years of subtle definition and nurturing. Such culture, reinforced by the agency's mission statement, is continually reinforced by senior managers and staff alike; the culture is perpetuated during the training of new employees. A modal orientation is endemic to most transportation organizations. Highway and transit agencies have historically strengthened their esprit de corps by reinforcing the importance of their particular mode and organizational purpose.

Figure 1
How Well Does Your Planning Process give Equal Consideration to the Full Range of Transportation Alternatives?



Source: National Survey of Stakeholders

The national survey revealed significant variance among stakeholders in how well their regions and states are considering the full range of transportation alternatives. As shown in Figure 1, transit agencies generally believe there is more need for improvement than do MPOs or state DOTs.

INTERJURISDICTIONAL BARRIERS

Transportation planning requires significant interjurisdictional cooperation among federal, state, and regional agencies as well as with the public and special interest groups. ISTEA shifted some federal transportation funding decisions from the state DOT to a shared responsibility between the state and the MPOs. These MPOs were charged with "opening up" the process to include all modes, all levels of government, and the public. According to the Surface Transportation Policy Project (STPP), the greatest success has been achieved by those willing to make alliances with new stakeholders who participate actively in the planning process.[2] For states that had limited success in achieving this shared responsibility, five interjurisdictional barriers were critical; these are discussed in the following sections.

Different Views About Authority and Responsibility

MPOs and state DOTs frequently have significantly different interpretations of ISTEA guidelines. In one western state, an MPO described how its state DOT believes it has full discretion to use state-allocated Surface Transportation Program (STP) monies—even in transportation management areas (TMAs) with more than 200,000 in population—and has proceeded with highway projects that other stakeholders oppose. An eastern MPO said its state DOT did not understand that the MPO leads the project selection process because it is also a TMA. The MPO did not want to challenge the powerful state agency directly, so the transition has been "slow and gradual."

Reluctance to Form Partnerships

Transportation planning decisions involve many local, regional, state, and federal officials. Because each agency has its own agenda, studies, and processes, decisions often reflect political concerns as well as transportation needs. This issue was discussed extensively at all three implemen-

The clearest winners have been those willing to make alliances with new stakeholders who participate actively in the planning process.

– Surface Transportation Policy Project

tation forums. For example, in Albuquerque, New Mexico, the City was sponsoring a major evaluation of transportation and land use within city limits and also was undertaking a major study of light rail; the County was evaluating a regional transit authority; the MPO was developing a strategic plan to reorganize to better meet the transportation and land use needs of the region; and the State was undertaking a major reconstruction of a freeway interchange and the evaluation of a high-occupancy-vehicle (HOV) lane.

That the purposes of and responsibilities for intermodal planning and policies are not well defined is also a problem. In New York, for example, the lead planning agency for the Sunnyside Intermodal Terminal is the Metropolitan Transportation Authority (MTA), but the Sunnyside Yard is owned jointly by the MTA and Amtrak. Furthermore, the MTA, the Port Authority of New York and New Jersey, and New Jersey Transit—all of which share responsibility for public transit into and out of Manhattan—are undertaking a major Access to the Core study, which is separate from (and competing with) the Sunnyside project concept. Freight interests need to be considered in the Sunnyside Intermodal Terminal, but the MTA's primary mission is people transportation, so freight concerns are not incorporated fully into the overall decision framework. In the San Antonio-Austin corridor, different major investment studies have been undertaken with little coordination among the different MPOs, transit agencies, and the Texas DOT until recently. In all three areas, jurisdictional confusion and inadequate interjurisdictional communication have impeded intermodal planning.

The importance of establishing authority and responsibility early in the planning process is characterized in a simple model of change developed by Michael Meyer [3] through case studies of federal policy adoptions in numerous metropolitan areas. Dr. Meyer contends that resolving issues of authority, responsibility, and procedures for decision making enables the organizations involved to address issues of substance effectively.

Insufficient Track Record

Most MPOs and DOTs have little experience with the kind of relationship ISTEA asks them to forge. They need time to build mutual trust. States may be reluctant to relinquish some responsibilities to MPOs with short track records; yet, MPO leadership needs such experience to gain credibility in these areas. Both sides need to acknowledge the transition period and help each other to succeed.

Solutions Overshadow Needs

Many elected officials view transportation projects as a way to accomplish goals other than mobility, such as economic development. Consequently, attention often focuses on transportation solutions rather than mobility needs. During the research, numerous examples were provided of how a transportation solution or project drove the entire planning process. The mayor who pursues the building of light rail without understanding the prerequisites is as much a barrier to sound intermodal planning as the highway engineer who focuses solely on a highway solution.

Poorly Integrated Land Use and Transportation Policies

Insufficient integration between transportation and land use decisions hinders effective intermodal planning. A key issue is that unrelated governmental entities have authority over transportation and land use decisions. The local city council or county board of supervisors normally have distinct authority over land use decisions. Public transportation organizations rarely have authority or direct influence over land use. Transportation decisions often involve many local, regional, state, and federal officials.

The research provided examples of how poorly integrated land use and transportation decisions affect transit service delivery decisions. The TCRP is undertaking three research projects to develop strategies to address this issue: *1) Transit and Urban Form; 2) Strategies for Influencing the Choice of Urban Travel Mode; and 3) The Cost of Sprawl—Revisited.*

RESOURCE BARRIERS

Funding, information, staffing, and analytical tools are essential to the success of ISTEA's objectives. A deficiency in any of these resources was identified as a significant barrier in many jurisdictions.

Significant Funding Shortfalls

To date, ISTEA has not been fully funded. Adequate federal funding is critical to successful intermodal policy implementation according to most stakeholders; transit agency, state DOT, and MPO representatives were united in their dissatisfaction with funding levels. Most state, MPO, and local transportation stakeholders support the need to fund ISTEA fully. It was a major theme in the interviews, national survey responses, and federal DOT roundtables on ISTEA implementation.[4] Facing significant funding shortfalls, an executive director of a California MPO suggested "providing funding at levels adequate to meet a region's intermodal needs; planning without the ability to implement is meaningless."

Funding enables choices, facilitates partnerships, and yields more support for intermodal projects. Inadequate funding, paired with the funding flexibility allowed in ISTEA, fuels rivalry rather than cooperation—particularly between highway and transit interests. A director of a rural transit agency in the midwest conveyed this frustration: "Intermodalism is supported as long as transit doesn't try to access discretionary funds—when pitted against roads, transit loses every time." A director of a transportation research institution in the northwest said, "The fact that ISTEA has not been fully funded in the face of undeniable evidence of the large and growing unfunded needs of the nation's highway and transit systems is not only a betrayal of ISTEA's bright promise, but itself poses a significant hurdle to the new intermodal spirit which ISTEA promotes."

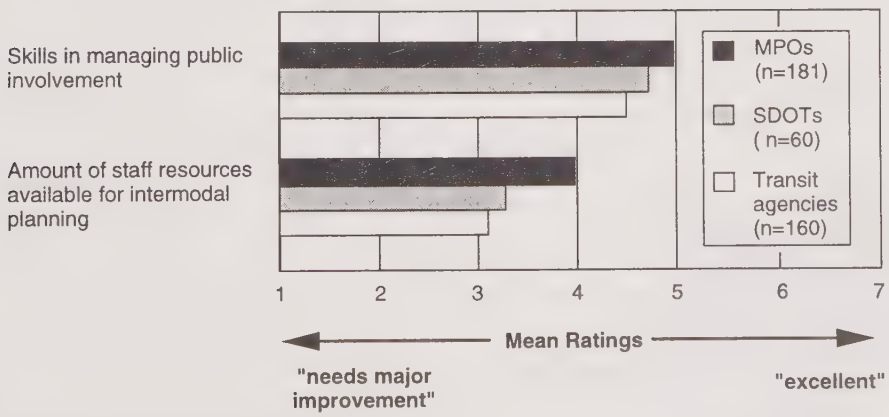
Insufficient Information

A small transit system administrator in the northern Plains summarized the need for better understanding about intermodal issues in many areas around the United States with the comment, "most local officials don't have a clue as to what intermodal planning means." In particular, elected officials lack the specific information necessary to understand and implement intermodal plans. The result, according to a very large East Coast transit agency, is that "we have developed intermodal strategic goals on paper, but they are lacking the underpinning to make them a reality."

Insufficient Staff Resources

Part of the problem is that staff resources are not sufficient to advance intermodal planning adequately. Figure 2 shows that most stakeholders are reasonably satisfied with the abilities of staff to facilitate public participation and

Figure 2
Good Skills, but Inadequate Staff Resources



Source: National Survey of Stakeholders

plan specific intermodal projects but are significantly less satisfied with the number of professionals available to conduct intermodal planning. Both the American Public Transit Association (APTA) and an executive level appointee at U.S. DOT estimate that more than 80 percent of professional transportation staff time is devoted to routine operational issues, short-term plans, and addressing immediate operational needs specific to the mode in which they are involved. Very little time remains to explore and address intermodal opportunities. ISTEA provides an opportunity for increased participation in regional transportation planning, but, faced with cutbacks in their operating budgets, many transit agencies are finding that they do not have sufficient staff to participate as actively as they would like.

MPOs are similarly frustrated. According to a U.S. Advisory Commission on Intergovernmental Relations study that included extensive investigations of 18 MPOs serving 12 metropolitan areas, "this newfound importance [due to ISTEA], however, came at a time when many MPOs had fewer capacities than needed to perform their planning functions and when it was difficult for them to expand." (5)

Inadequate Tools for Comparing Mobility Projects

ISTEA emphasizes selecting solutions according to transportation needs rather than mode. Choosing projects according to mobility has proven difficult for both MPOs and state DOTs. According to the Executive Director of the Community Transportation Association of America, "it is difficult to make transportation decisions predicated upon mobility, when there is no agreed definition of the term. While the lack of definition can work to the benefit of some special interests in their advocacy of a particular project, this absence of definition might be the source of confusion in the decision-making process."

In addition to no common definition, there are no common measures of multimodal mobility. This issue surfaced repeatedly during this research and is validated by the recently completed NCHRP Synthesis 201, *Multimodal Evaluation in Passenger Transportation Practice*. The synthesis concludes, "Clearly, mobility needs to be defined and measured. Mobility defined as highway level of service does not lead to multimodal solutions." (6)

What is the correct formula? Are the correct weightings given to the decision-making variables? Are the results interpreted correctly? Most importantly, is the process constructed to select the best approaches for mobility, land use, and air quality needs of the community or region? Decision makers need tools to measure these and other indicators of success. The research found that existing measures often exclude potential intermodal planning options early in the process.

SECTION 3

OPPORTUNITIES FOR IMPROVING INTERMODAL PLANNING: NATIONAL FINDINGS

Intermodal planning is a dynamic process. Significant challenges facing intermodal decision makers are what social scientist Kurt Lewin describes as *restraining forces.* [7]

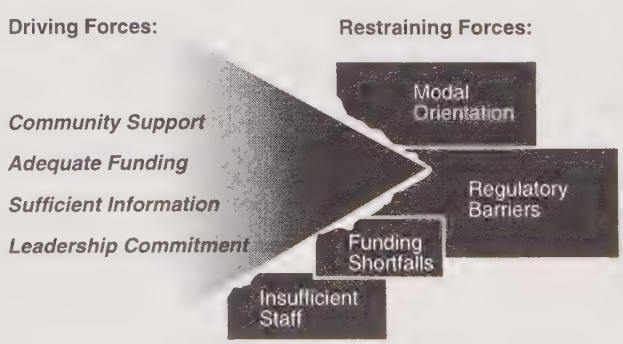
Factors that facilitate changes are called driving forces. The current effectiveness of intermodal planning in a given region reflects the degree to which driving forces overpower restraining forces, as illustrated in Figure 3. The national survey results helped identify driving forces having the most potential for improving the intermodal planning process.

Forty-six factors that might improve the intermodal planning process were evaluated. (All 46 factors are listed at the end of this summary.) The top priorities from the transit agency, MPO, and state DOT stakeholder perspectives are shown in Figure 4. The research revealed that *improved federal funding for mobility projects will have the greatest impact from the transit agency perspective, but collectively, stakeholders believe that building a constituency for the intermodal planning concept will yield the greatest results.* Informing key players about the benefits of intermodalism, inviting citizen input on intermodal planning, and mobilizing business leadership also can result in improvement. The challenge is to amass external support that does not favor one mode or another but motivates citizens, business, and elected officials to determine collectively how to move people and goods most effectively.

Leadership is one of the most powerful driving forces of change. Energy and determination created by focused leadership can overpower restraining forces and enable communities to meet objectives despite serious barriers. Leadership was the main factor in all successful examples of intermodal planning and decision making studied. If effective leadership is present, it can overcome many of the barriers discussed earlier. One notable example took place in a mid-Atlantic state where the senior executives of the state DOT were opposed to the construction of a new light rail line because it would divert funding from the state highway trust fund. Throughout the state's DOT senior staff levels, the tone regarding the viability of the project from a state funding standpoint was continually negative. At the presentation of the plan to the Governor, the state DOT was going to recommend delaying the light rail project to the "out years" of the capital program; however, the Governor expressed support for the plan and directed state funds to be reprogrammed from highway use to transit so that the project could move ahead quickly. Following the meeting, the state DOT staff, including its Highway Department, rallied behind the project to support the transit agency in the construction of the project. In this and numerous other examples, leadership overpowered barriers by redirecting the focus of stakeholders away from restraining forces and toward achieving a shared intermodal objective.

Leaders must be informed about transportation options. Said a senior Iowan transit official: "ISTEA is only as good as policy makers are." Many stakeholders stressed the need for ongoing information to elected officials.

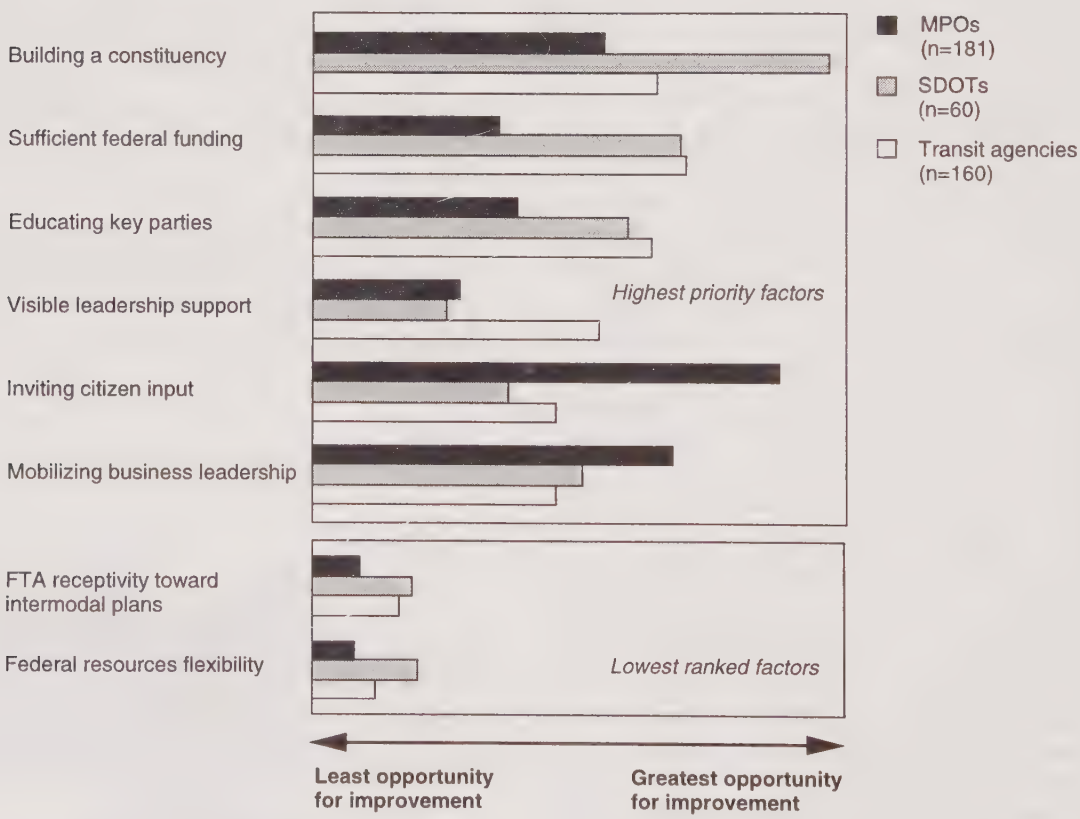
Figure 3
Driving Forces Can Overpower Restraining Forces



Full funding of ISTEA was important to all stakeholders, but it was not their highest priority for improving the overall intermodal planning process. When national survey respondents were asked to name one change that would improve intermodal planning and decision making, efforts to increase funding levels were cited by about 30 percent of the respondents. Although funding is important to the implementation of intermodal projects, the research indicates that *gaining external support for intermodalism is the most critical prerequisite to sound intermodal planning and policies.* As shown in Figure 4, transit agencies and state DOTs feel more strongly than MPOs that sufficient federal funding will have a much greater effect on the intermodal planning process. This was a general pattern for other intermodal planning factors having the most opportunity for improvement. Of all 46 planning factors evaluated, federal resource flexibility had the least potential for improving intermodal planning across all stakeholder groups (see Figure 4). Stakeholders are very satisfied with federal resource flexibility, and there is little opportunity for change that would improve the intermodal planning process.

Survey respondents provided examples of successful intermodal planning. As shown in Table 1, development of intermodal transfer facilities and long-range plans were the top response categories.

Figure 4
Top Priorities for Improving Intermodal Planning



Source: National Survey of Stakeholders, Pacific Consulting Group: *Net Impression*

Table 1
Best Examples of Intermodal Planning

Describe the best example of intermodal planning in your area. What in your opinion are the reasons for its success?

1. Development of an intermodal transfer facility. (83 mentions)
   - Development of an intermodal transit center in the central business district. Project was planned and programmed three years in advance, submitted for public input early in the process, and local funding, including business participation, was secured. (Small southwestern DOT)
   - Intermodal Amtrak Station had strong local and Congressional support. (Southern MPO)
2. Development of a long-range regional transportation plan. (28 mentions)
   - Long-range, statewide, intermodal transportation plan was successful because of early and continued involvement of the private sector and other public agencies. (Southern state DOT)
   - Development of a Statewide Intermodal Transportation Plan. This resulted in coordination and cooperation among modes of transportation that normally do not deal with each other. (Mid-America state DOT)
3. Provision of intermodal services (23 mentions)
   - Electric shuttles in the downtown area—these shuttles facilitate rail-transit-pedestrian traffic and allow motorists to park in remote lots and shuttle to business/tourist areas. (Medium-sized West Coast transit agency)
   - Commuter connection bus service to and from railroad stations. (Large northeastern transit agency)
4. Planning a specific transportation corridor (21 mentions)
   - Development of 100-mile HOV system lead by transit authority with significant interface and coordination with state highway department. (Large southwest transit agency)
   - MIS Study in an urban freeway corridor. (Southwest DOT)
5. TIP Process. (16 mentions)
   - During TIP process, we asked the people what they wanted through a visual preference survey and designed our evaluation criteria to reflect those preferences. (Southern MPO)

Source: National Survey

SECTION 4

STRATEGIES

To implement ISTEA effectively, leaders at all levels must address the context of how transportation and land use problems are defined, options are presented, and solutions are selected.

As shown in Figure 5, the following three types of strategies shape decision making:

- *Structural* strategies focus on increased modal integration, defining new agency visions or missions, and establishing partnerships that strengthen regional constituencies.
- *Procedural* strategies eliminate regulatory discrepancies, provide intermodal funding incentives, and define mobility in long-range plans.
- *Leadership* strategies improve intermodal planning capabilities by providing information, communicating success stories, and broadening the selection criteria of senior transportation officials.

As illustrated in Figure 5, structure, procedure, and leadership promote or impede regional or local decision-making. The ISTEA implementation regulations are a good example of a procedural decision-making context. The local ISTEA decision-making process should conform to the ISTEA implementation regulations, which require financially constrained, long-range plans. This procedural context shapes the drafting of regional transportation plans by MPOs.

Figure 5 shows the steps that are crucial to effective local ISTEA implementation. These steps are as follows:

- Establishing a *common vision,*
- Generating *community support,*

Figure 5
Decision-Making Context of the Intermodal Planning Process

- Creating *system performance measures* that clearly relate to market demands,
- Developing *enabling organization(s)* to meet local needs, and
- Pursuing *adequate funds* to implement priority projects.

If the local ISTEA implementation is to succeed, each step should address transportation market needs. The local ISTEA implementation process cannot be prescribed—it must be developed at the local level. The research revealed strategies that enhance the context in which implementation can occur. "Context-shaping" strategies developed for use at the federal, state, and local level are provided in the rest of this section.

STRUCTURAL STRATEGIES

The separation of modes within state and federal transportation agencies, extensive modal preference in the transportation industry, and reluctance to share power and authority have constrained the implementation of ISTEA. The challenge is to change institutional structures to enable the development of an intermodal transportation system. The first three strategies are designed to provide the framework for improved intermodal planning and decision making.

STRATEGY 1

Increase the modal integration of state and federal agencies to be consistent with the policies and programs contained in ISTEA.

The structure of transportation agencies, specifically at the federal and state levels, needs to complement the policies of intermodalism and mobility set forth in ISTEA. The different implementation strategies that will achieve modal integration range from full restructuring to modal teams advocating modal interest.

The U.S. DOT's 1995 proposal to merge the highway, transit, and railroad agencies into an Intermodal Transportation Administration would have been consistent with this strategy. This effort would be a significant step toward altering the federal transportation structure from one centered on modes to an organization whose efforts are focused

STRUCTURAL

KEY BARRIERS

- Federal and state DOT structure separates modes
- Extensive modal orientation
- Reluctance to share power and authority
- Insufficient MPO track record

STRATEGIES

Federal

- Increase modal integration

State

- Define a new vision and mission statement that focuses on market needs rather than modal solutions
- Increase modal integration

Regional (MPOs, transit agencies, local government)

- Develop partnerships to strengthen regional constituencies
- Broaden MPO policy board to include all major transportation players
- Define a new vision and mission statement that focuses on market needs rather than modal solutions

on the nation's transportation system and the interactions among its many components.

Similar reorganization at the state and local levels would establish consistency in structure between transportation agencies. This would enhance communication between and decision making by federal and local governments.

In many states, wholesale restructuring of the state DOT may not be feasible or desirable. Functional integration of major transportation responsibilities could include the consolidation of transportation planning and programming, system design, and budgeting. For example, the Washington State DOT now has centralized planning and programming without regard to mode. The state also used the concept of modal advocates to ensure that appropriate solutions are being considered during planning and that appropriate institutional structures are there.

The use of modal teams is another step toward modal integration. In Florida, increased functional integration has taken place through teams at the district level. Each team consists of a highway engineer, a transit official, and the District Secretary. The Secretary of Transportation also encourages modal advocacy and encourages friction between modal interests, "The only time you don't see friction is when you don't see movement," he said.

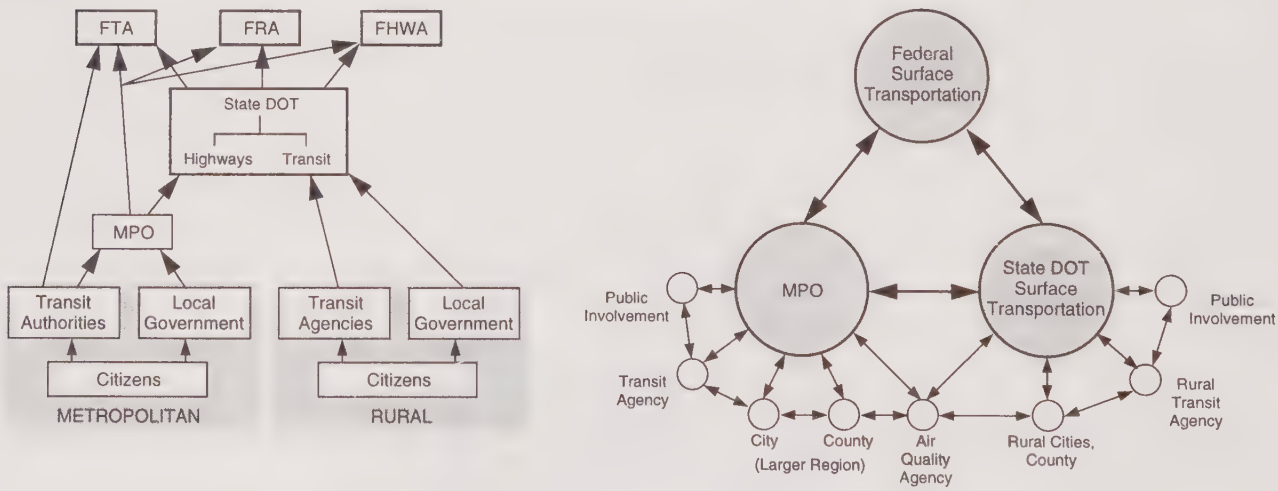
The research identified different ways to achieve increased modal integration to achieve the objectives of ISTEA. The left side of Figure 6 illustrates the typical hierarchical institutional relationships prior to ISTEA. The institutional challenge is to restructure transportation organizations to increase modal integration, encourage collaboration, and foster shared responsibility.

STRATEGY 2

Transportation agencies—particularly state DOTs, highway agencies, and transit authorities—should embrace intermodal planning in their vision or mission.

Many organizational problems that impede intermodal planning are rooted in agency vision and mission state-

Figure 6
The ISTEA Institutional Challenges: Modal Integration, Collaboration, and Shared Responsibility



PRE-ISTEA (Typical)
- Structured
- Hierarchical
- Modally separate

POST-ISTEA (Conceptual)
- Collaborative
- Shared responsibility
- Modally integrated

ments. Intermodal planning requires an organizational support structure, cooperation, and dialog among modal transportation agencies.

An organization's mission guides its actions and decision-making processes. As such, it needs to reflect broader transportation responsibilities for all transportation agencies—highways and transit. While it should continue to address modal objectives, it also must stress the need to actively pursue and participate in intermodal opportunities. In essence, the broader mission is to promote a transportation network that is safe and efficient and evaluates transportation options from the perspective of finding the best solution—not fitting the solution to a particular mode.

STRATEGY 3

MPOs should establish or strengthen partnerships with agencies, local officials, businesses, and community leaders to strengthen support from their regional constituencies.

This strategy calls for an invigorated and innovative MPO structure to work creatively with its local partners and to build an ongoing planning and programming process that facilitates choice, connectivity, cooperation, and coordination.

Structurally, MPOs have strengthened support from their regional constituencies by doing the following:

- Developing formal partnerships with governmental agencies in the region;
- Including key transportation personnel, such as the transit agency chairperson or general manager, on the MPO policy board;
- Involving the private sector and public interest groups, including non-profit organizations, on the MPO board, and advisory committees;
- Establishing intergovernmental task forces to address specific corridor or regionwide needs; and
- Creating a special commission to implement the long-range transportation plan.

"The Oregon Transportation Plan envisions a transportation system that moves people and goods in a way that provides for livability and economic prosperity for all Oregonians. The system provides Oregonians with access to goods, services, jobs and recreation, while providing Oregon industry access to national and international resources and markets. To most effectively meet the state's needs, the transportation system takes advantage of the inherent efficiencies of each transportation mode and encourages interconnection between modes." – Oregon Transportation Plan

PROCEDURAL

KEY BARRIERS

- Federal regulations overly extensive
- State laws limit funding flexibility
- Insufficient tools for comparing mobility projects
- Poorly integrated land use and transportation decision making

RECOMMENDED STRATEGIES

Federal

- Review and streamline laws, regulations, and guidelines to intermodalism and simplify requirements
- Consider incentives to pursue intermodal solutions
- Develop analytical framework for comparing intermodal solutions

State

- Consider incentives to pursue intermodal solutions
- Define mobility measures in long-range plans
- Develop project selection criteria and procedures that reflect state and community goals

Regional (MPO, transit agency, local government)

- Define mobility measures in long-range plans
- Facilitate external support and interest in intermodal approaches
- Develop project selection criteria and procedures that reflect community goals

The San Francisco Bay Area Partnership is an example of building a local constituency to facilitate intermodalism. Larry Dahms, Executive Director of the Metropolitan Transportation Commission in the San Francisco Bay Area, described the forging of new formal partnerships this way: "Launched almost immediately on the heels of the President's signing of ISTEA, the 36 governmental agencies comprising this `Partnership'...covers the spectrum of local to federal agencies–transportation and environment–and multiple modes. Its goals are improved mobility and cleaner air. The Partnership's initial burst of energy was signaled by adoption of a regional Joint Urban Mobility Program, better known as 'JUMP Start.' It consists of 21 multi-agency projects designed to demonstrate an immediate ISTEA benefit—effective projects on the street and/or more understandable planning and decision processes." (4)

The Ohio-Kentucky-Indiana Regional Council of Governments (OKI) has established two commissions to address two key issues that affect implementation of the long-range transportation plan. The Commission on Land Use will focus on bringing consistency to its long-range plan goals and local land use policies. Its recommendations will be the basis for new transportation-sensitive land use standards and will establish criteria for planning commissions and departments throughout the region. The Commission on Transportation Financing and Transit Institutional Restructuring will focus on how to restructure existing transit service institutions and how to finance its plan's implementation. (8)

PROCEDURAL STRATEGIES

Extensive regulatory requirements, cumbersome and sometimes contradictory grant processes, and excessive reporting also impede consideration and pursuit of intermodal planning and projects. As one senior state DOT official stated, "the federal government must shift from their role as regulators to a role of a facilitator." The next three strategies direct this shift.

STRATEGY 4

Review and streamline procedures and regulations among the surface transportation agencies of the U.S. DOT and other federal agencies. This review should also simplify the

regulations and address inconsistencies in order to reduce the MPO and state DOT administrative burden and clarify responsibilities.

The FHWA recently produced a "Regulatory Reinvention Initiative," which recommends measures to streamline procedures and eliminate regulations where necessary. The FTA recently revised its regulations in order to provide grantees maximum flexibility in their procurement decisions. Further efforts to identify and eliminate inconsistencies in rules and regulations within the U.S. DOT itself and other federal agencies would be beneficial. Efforts to simplify ISTEA implementation regulations would benefit understaffed MPOs, state DOTs, and transit agencies.

STRATEGY 5

Consider funding incentives that promote intermodal planning to enhance the willingness with which state, regional, and local transportation agencies view and pursue intermodal approaches to mobility improvements.

This strategy suggests that intermodal planning and resulting projects receive special promotion and attention. For example, in the recent past, the Interstate Transfer Program provided an opportunity to transfer interstate highway funds to transit uses, and an 85 percent federal match provided an incentive over the standard 80 percent federal transit match. Several metropolitan areas took advantage of the program. Another example is the promotion and attention that privatization efforts received in the 1980s.

Another incentive would be to amend project selection criteria to give greater weight to projects resulting from effective intermodal planning. Several MPO stakeholders mentioned this strategy as one they had either adopted or were considering.

If federal and state agencies were to commit to a timely review and approval of intermodal projects, with a streamlined process for distributing funding in an expeditious fashion, this would provide an additional incentive.

STRATEGY 6

State, MPO, and transit agencies should define "mobility" and develop measures that reflect mobility in their long-range transportation plans based upon the needs of the jurisdiction.

A strategy to define mobility is believed to be best implemented by transportation planners and decision makers at the state, regional, and local levels. In this way, mobility can be defined in response to local needs. Planners should assess a project on its quantitative value but also should consider a project's qualitative impact on the customers that it intends to serve—whether they are commuters, business sector representatives, or other types of traveler.

In *NCHRP's Synthesis of Highway Practice 201: Multimodal Evaluation in Passenger Transportation*, Dr. Scott Rutherford states that "A multimodal measure of mobility should be developed to compare effectiveness across modes. This measure should not only reflect mobility implications of highway and transit improvements, but also demand management, land use forms, and nonmotorized travel modes." The current intermodal planning research strongly supports this strategy.

STRATEGY 7

MPOs and state DOTs should develop project selection criteria and procedures that reflect state and community goals.

A critical final step in the transportation planning process is the selection of projects to be funded. Project selection criteria provide the framework for (1) taking community goals and priorities articulated in the development of long-range plans, citizen outreach, and multi-agency coordination and (2) translating these into "on the ground" transportation expenditures. Unless the selection criteria and programming structure capture the community's priorities as well as enable fair comparison of highway, transit, and alternative modes, traditional modal orientation will continue. Although ISTEA was passed several years ago, many agencies have not yet achieved intermodal objectives since their project programming criteria are inconsistent with intermodalism.

LEADERSHIP

KEY BARRIERS

- Insufficient information on intermodal benefits
- Inadequate collaborative skills
- Insufficient staff for intermodal planning

RECOMMENDED STRATEGIES

Federal

- Coordinate initiative to inform elected officials about intermodal planning
- Fund development of intermodal planning success stories

State

- Expand hiring criteria for senior officials
- Modify incentive structures for senior transportation planning officials
- Communicate success stories (process and results)

Regional (MPO, transit agency, local government)

- Inform local elected officials of the benefits of intermodal planning
- Broaden the selection criteria for senior officials
- Modify incentive structures for hiring senior transportation planning officials
- Communicate success stories (process and results)

A wide array of different project selection processes are being utilized. Typical of efforts to achieve "mode-neutral" criteria is a process used by the North Front Range Transportation Air Quality Planning Council in Fort Collins, Colorado. The MPO uses 11 criteria for each project and assigns a weight between 1 and 5 to reflect community values. According to local staff, the process has resulted in an excellent mix of highway capacity improvements, transit enhancements, and transportation demand management projects. Other areas, such as the Rochester, New York, region first determine how much funding should be made available to each mode and then rank the projects by mode.

Regardless of the project selection procedure chosen, the research points to a clear need for developing a project programming structure tailored to local conditions. A western MPO executive director conveyed to the researchers how the MPO originally tried to adapt the project selection criteria from another region but found that their community goals required a totally different approach.

LEADERSHIP DEVELOPMENT STRATEGIES

Agency and elected officials who appreciate the "big picture" are skilled at helping communities address their problems, generate solutions, and follow through on actions that can make the largest contribution to success. Although the planners and engineers, who want to evaluate a range of alternatives, and elected officials, who often need immediate solutions, will continue to need to negotiate, the following strategies will improve leadership development.

STRATEGY 8

Inform elected officials of the benefits and dividends of intermodal planning.

A broad-based effort to inform elected officials and organizational leaders about the benefits of intermodal transportation could facilitate cooperative efforts. More information could enhance the relationship of transportation planning, land use planning, and air quality as well as help elected officials suggest reasonable alternative solutions to local transportation problems.

Specific actions proposed by the U.S. DOT and the U.S. Advisory Commission on Intergovernmental Relations and others include the following:

- Preparing a video on ISTEA planning for state, MPO, and local policy officials;
- Conducting seminars on ISTEA planning for local elected officials and senior staff for presentation at the National League of Cities, U.S. Conference of Mayors, National Association of Counties, and National Association of Regional Councils' annual meetings; and
- Getting on line with satellite hook-ups, electronic bulletin boards, and interactive video conferencing.

The National Transit Institute is also developing a curriculum on intermodal planning with plans to conduct local intermodal planning seminars.

Before these ideas can be truly effective, MPO and state DOT staff need to understand how their elected officials learn about transportation issues. For example, staff may need to know what conferences officials attend, what magazines they read, and with whom they speak. With this information, staff can develop an affordable communications plan that sends a consistent message about the intermodal planning aspects of ISTEA.

STRATEGY 9

Communicate success stories to staff, elected officials, and community organizations.

Management literature shows that people in organizations communicate as much through stories as through facts and data. The strategy here would capitalize on this phenomenon by documenting success stories surrounding intermodal planning and policies. Case studies of successful practices need to document the steps people followed, the challenges they faced and how they overcame them, as well as the results achieved. Because intermodalism involves the use of informal and political processes as well as the traditional analytical ones, people need a road map of how to obtain support and commitment, perhaps more than they need a road map of how to analyze the options.

The Association of Metropolitan Planning Organizations has developed and published mini case studies of successful ISTEA implementation practices around the country, called *In the Spotlight: MPO Best Practices.* These publications are useful, although they do not document the institutional challenges and barriers that were overcome. These and other case studies should be widely disseminated in various media.

STRATEGY 10

Broaden the selection criteria for hiring senior transportation officials.

The new collaborative skills required to operate in a multimodal environment argue for redefining the job descriptions of senior managers in the transit industry, highway industry, MPOs, and state DOTs. There is a need to supplement the knowledge and expertise within a particular transportation function with criteria such as the following:

- Working effectively in a multimodal environment,
- Managing teams composed of diverse specialties,
- Communicating a shared vision,
- Working constructively with diverse stakeholder groups, and
- Helping diverse organizations reach agreement and take action (versus just studying the issue).

Although many of these are qualitative in nature and, therefore, hard to assess quickly, they will become increasingly important to success in the multimodal environment. The incentive structure and performance criteria for senior transportation planning officials should be revised to incorporate these new roles. Managers who do not look for opportunities in these areas may be left behind.

SECTION 5

LOCAL ISTEA IMPLEMENTATION: LESSONS LEARNED

Each local jurisdiction must tailor individual intermodal planning components to its own situation.

The details cannot be prescribed—they must be adapted to changing circumstances at the federal, state, regional, and local level. The next transportation reauthorization legislation, called next-TEA by some, will influence the future decision-making context, which, in turn, will affect the local implementation process. Environmental conditions (such as land use patterns, air quality conditions, and historical transportation market shares) must all be considered in adapting a local planning process.

The three implementation forums (conducted in Albuquerque, New Mexico; Austin, Texas; and Queens, New York) as well as the national survey indicated that several attributes can enhance local intermodal planning processes. Table 2 summarizes the most valuable attributes of each local planning process.

A TALE OF THREE CITIES

The following sections summarize the results of the three implementation forums and local efforts to improve the ISTEA implementation process.

AUSTIN-SAN ANTONIO

The 80-mile corridor along Interstate Highway 35 between Austin and San Antonio, Texas, is becoming increasingly congested. In Austin, a 5 percent annual population growth rate is expected to continue until 2020 with automobile traffic volumes increasing at a historical rate three times greater than population growth. Automobile traffic has been compounded by a 6 to 8 percent annual growth in truck and rail traffic with a single-track rail line along the corridor nearly reaching capacity, mostly because of the North American Free Trade Agreement.

For years, planners have been investigating the potential to relocate the Union Pacific freight rail line to a proposed State Highway 130 corridor that essentially parallels Interstate 35 between the two cities. There has also been considerable interest in the intermodal potential for reuse of the Union Pacific right of way between Austin and San Antonio for commuter rail. The implementation forum brought together approximately 50 technical and decision-making officials representing the public and private sectors to develop an action plan to move the intermodal planning process forward. The forum participants identified several barriers to intermodal planning, including insufficient communication among key participants (this was the first time Union Pacific was involved), the absence of active external support, the complexities of addressing multijurisdictional projects, and the lack of a defined funding strategy. Five teams of participants developed action plans to do the following:

- Develop a vision for transportation in the Austin-San Antonio corridor,
- Develop a project coordinating structure,
- Solicit external project support,
- Develop funding strategies, and
- Market the project in the communities.

During the summer of 1995, the groups met several times and made significant progress. The new relationship with Union Pacific personnel spawned plans for a demonstration commuter rail train to visit the corridor with more than 100 elected and other community officials participating. This demonstration is a good example of how to build external constituencies for intermodal planning concepts. The group also has discussed an outline of a commuter rail feasibility process, and plans are underway for an origin/destination study.

QUEENS, NEW YORK

For more than 60 years, planners have discussed the construction of an intermodal facility at Sunnyside Yards, 150 acres of below-grade railroad tracks and vacant land in Long Island City in the Queens Borough, New York. Originally proposed in a 1929 Regional Plan as a means of relieving overcrowding at Penn Station in Manhattan, Sunnyside Yards is again being discussed not only as a solution to transportation problems within Queens but as a regional transfer center for passengers using MTA subways and Amtrak, Long Island Rail Road, and New Jersey Transit rail lines. At present, these rail services pass through Sunnyside en route to other destinations with no opportunity for passengers to transfer from one mode to another.

A 1993 study commissioned and conducted by the New York City Department of City Planning highlighted the regional benefits of such a facility, including the economic development potential for Queens itself. The planning study for Long Island City envisioned a new "vibrant 24-hour pedestrian-oriented Central Business District with development capacity for 20 million square feet of new housing, shops, and community facilities." [9]

Several factors have contributed to the difficulties that the New York region has experienced in moving forward on the Sunnyside intermodal facility idea. First, although there are transportation agencies and planning groups interested in the idea, none has jurisdictional responsibility for a project of this scope. Furthermore, competition for limited transportation funds is intense. Other major projects under consideration include: a light rail connection between Kennedy and La Guardia airports and downtown Manhattan; development of an intermodal facility in midtown Manhattan; and expanded use of the Sixty-Third Street tunnel. Each of these major proposals is a step toward an improved transportation network; however, each addresses only a specific transit need. In contrast, the Sunnyside Yard project represents a coordinated, comprehensive approach that looks at transportation and land development issues in a broader context.

Table 2
Attributes That Enhance the Local Intermodal Planning Process

Common Vision

- ✓ Provides for a broad array of modal options.
- ✓ Establishes broad goals.
- ✓ Promotes early up-front and continuing public involvement.
- ✓ Includes land use and air quality considerations.
- ✓ Defines issues clearly in the language of the public.

Community Support

- ✓ Identifies potential sources of support.
- ✓ Establishes ongoing mobilization forums.
- ✓ Includes short-term achievable projects.
- ✓ Achieves broad base of ownership.

Adequate Funds

- ✓ Offers significant local funding base.
- ✓ Proactively identifies new sources.
- ✓ Prioritizes projects equitably and objectively in a mode-neutral manner.

Enabling Organizations

- ✓ Resolves issues of authority and responsibility.
- ✓ Establishes continuous partnership.
- ✓ Includes diverse interests.
- ✓ Expands roles for existing organizations.
- ✓ Facilitates action.

Performance Measurement

- ✓ Relates specific system performance measures to market demands.
- ✓ Responds to stakeholder concerns.

On July 18 and 19, 1995, under leadership from the New York City Department of City Planning and the New York Metropolitan Transportation Council, an implementation forum took place. The work group developed a 90-day action plan to begin work on the following issues: 1) address tunnel capacity and other issues surrounding access from the Sunnyside Yard location to Manhattan; 2) develop alternative designs for a Sunnyside Yard project; and 3) estimate the effect of the Sunnyside Yard on regional transportation patterns.

By October 1995, significant progress had been made in each of these areas, with the Metropolitan Transportation Authority (MTA) assuming the lead role. By the end of October, alternative intermodal facility designs had been developed and presented in a public forum in Queens for citizen reaction. At the same time, the MTA was finalizing collection of transportation demand data in order to forecast the effect that such an intermodal facility would have on regional mobility. Meanwhile, the prospects for constructing a major competing project, the midtown intermodal facility, dimmed because of the high cost of such a facility and insufficient federal funding to finance it.

Although implementing a project on the scale of the Sunnyside Yard concept would present a challenge in any area, the multitude of transportation agencies in New York, the planning complexities, and fragmented political support have made progress difficult. As of the end of 1995, however, there is renewed energy for exploring the Sunnyside Yard concept and the prospects for progress look better than at anytime in the past 60 years.

ALBUQUERQUE, NEW MEXICO

With a metropolitan area population of over 600,000, most residents and elected officials are proud of the high quality of life in Albuquerque. Although the region includes a non-attainment area for carbon monoxide with "brown clouds" prevalent during winter months, congestion issues are generally limited to bridge crossings along the Rio Grande River, one freeway intersection, and some major intersections during the commute period. New employment growth is symbolized by Intel Corporations' investment of $1 billion for a new plant and equipment in suburban Rio Rancho, immediately north of Albuquerque. There is a strong interest in maintaining a high quality of life in the region, without the serious side effects of growth experienced by other Sun Belt cities. The Albuquerque Region's Long-Range Transportation Plan calls for a 10 percent reduction of single-occupant vehicle trips by 2015 in order to accommodate new growth without serious traffic problems. The implementation forum was to bring key players together to craft actions that might lead to an intermodal plan to achieve the regional transportation plan trip reduction objectives. A key barrier identified in a survey prior to the forum was insufficient leadership. According to a key private sector representative, "There is currently no individual or organization strongly championing intermodal transportation in Albuquerque." At the forum, participants identified the top three intermodal planning issues as follows:

1. Craft a Long-Term Strategy. The planning process should result in the identification of which infrastructure projects get funded.
2. Develop Regional Development Perspective. Albuquerque and other entities need to have a common vision.
3. Determine Best to Coordinate Land Use and Transportation Decisions. Both land use and transportation regulatory bodies need to consider appropriate transportation and land use decisions.

The City of Albuquerque is undertaking a major land use and transportation evaluation study to address the long-term mobility and transportation needs of the City. The City initiated the study for several important reasons: 1) to clearly define its direction; 2) to accomplish an integrated set of land use/transportation goals and policies; and 3) to develop a strategic plan of action to implement a "place image." This study and concurrent efforts to evaluate the need for a regional transit authority and study of light rail options will address the top priority issues.

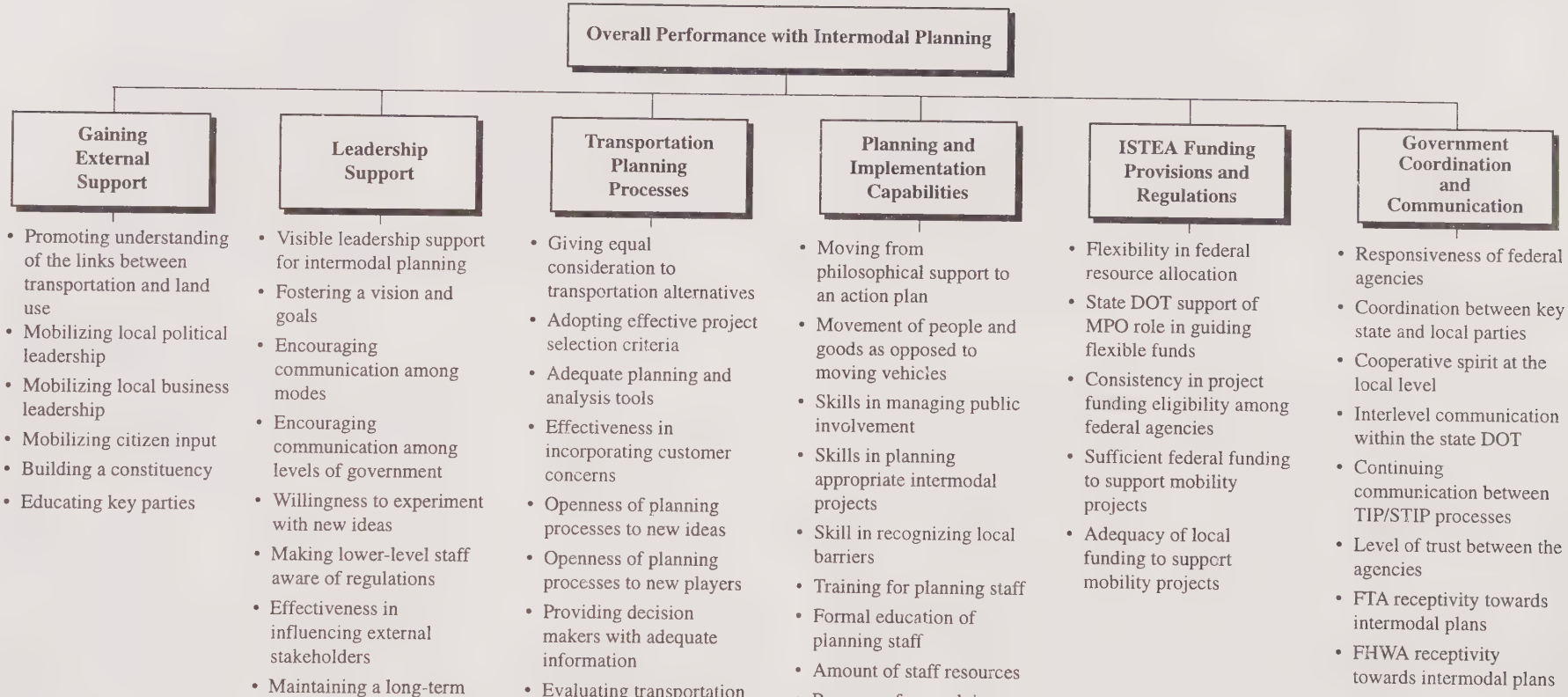
To demonstrate progress toward the regional plan's trip reduction objective, the forum's action planning session focused on the development of a specific plan for achieving

the 10 percent reduction in trips by employees working at the city and county government complex. Reconstruction of the Civic Center Plaza and a subsequent reduction in parking availability produced a need for the demonstration effort. Plans are underway for a major campaign to promote the use of bicycling, carpools, transit, alternative work schedules, and telecommuting to achieve the intermodal objectives.

CONCLUSIONS

In the 4 years since ISTEA authorization, many regions and states have made significant strides in changing their structures and processes to collaborate successfully and share responsibilities in an effective intermodal planning process. Others have found that organizational, interjurisdictional, and resource barriers have impeded the progress of ISTEA. The research revealed that most decision makers and executives are pleased with the primary policies of ISTEA but have been frustrated by many of the implementing regulations. There has been significant momentum toward improved intermodal planning practices, and the research points to the need to continue the basic philosophies of ISTEA: decentralized decision making, strengthened connections to environmental policy, and the economically efficient movement of people and goods. Greater leadership commitment, new regional constituencies, increased funding, and additional information on intermodal choices are the primary forces that can overcome existing barriers and continue the excellent progress that has been made in achieving ISTEA's goals.

46 Intermodal Planning Factors
Customer Scorecard for Intermodalism


Overall Performance with Intermodal Planning
Gaining External Support
• Promoting understanding of the links between transportation and land use
• Mobilizing local political leadership
• Mobilizing local business leadership
• Mobilizing citizen input
• Building a constituency
• Educating key parties
Leadership Support
• Visible leadership support for intermodal planning
• Fostering a vision and goals
• Encouraging communication among modes
• Encouraging communication among levels of government
• Willingness to experiment with new ideas
• Making lower-level staff aware of regulations
• Effectiveness in influencing external stakeholders
• Maintaining a long-term focus on system needs
• MPOs and transit agencies: Visible leadership support for intermodal planning at the state DOT
Transportation Planning Processes
• Giving equal consideration to transportation alternatives
• Adopting effective project selection criteria
• Adequate planning and analysis tools
• Effectiveness in incorporating customer concerns
• Openness of planning processes to new ideas
• Openness of planning processes to new players
• Providing decision makers with adequate information
• Evaluating transportation plans for land use and air quality impacts
Planning and Implementation Capabilities
• Moving from philosophical support to an action plan
• Movement of people and goods as opposed to moving vehicles
• Skills in managing public involvement
• Skills in planning appropriate intermodal projects
• Skill in recognizing local barriers
• Training for planning staff
• Formal education of planning staff
• Amount of staff resources
• Processes for resolving conflicts
• Clear delineation of roles and responsibilities
ISTEA Funding Provisions and Regulations
• Flexibility in federal resource allocation
• State DOT support of MPO role in guiding flexible funds
• Consistency in project funding eligibility among federal agencies
• Sufficient federal funding to support mobility projects
• Adequacy of local funding to support mobility projects
Government Coordination and Communication
• Responsiveness of federal agencies
• Coordination between key state and local parties
• Cooperative spirit at the local level
• Interlevel communication within the state DOT
• Continuing communication between TIP/STIP processes
• Level of trust between the agencies
• FTA receptivity towards intermodal plans
• FHWA receptivity towards intermodal plans

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Institutional Barriers to Intermodal Transportation Policies and Planning in Metropolitan Areas

TCRP Project H-4C
Final Report

1. INTRODUCTION

"Nothing endures but change." Heraclitus said this almost 2,500 years ago, yet it remains true of surface transportation practices in the United States today. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) heralded dramatic changes to federal transportation policy. Section 2 of ISTEA provided a new direction for the transportation industry as follows:

> *It is the policy of the United States to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the nation to compete in the global economy, and will move people and goods in an energy efficient manner.*

Initially, many in the transportation industry viewed these changes with enthusiasm. The transit industry, for example, lauded its flexible funding and increased autonomy at the local level. A Dallas Councilmember summarized the expectations of many: "Contrary to the usual centralized one-size-fits-all federal practice, this legislation allows local and regional transportation agencies the flexibility and authority to design systems tailored to their specific needs." The primary reforms of ISTEA are described in Table 1-1.

The ambitious national goals embedded in ISTEA represent an enormous step forward in transportation planning. Noted researcher Bruce McDowell summarized how the policy brought three, new, far-reaching philosophies into practice. ISTEA promotes the following:

- Decentralized decision making for state and local governments;
- Strengthened connections to environmental policy, especially to the Clean Air Act; and
- New prominence for nontraditional goals and new stakeholders in the planning and decision-making process. (Goals now include international competitiveness, energy conservation, jobs and economic development, equality of access, and mobility for underserved and disadvantaged populations.)(1)

Following their initial jubilation, however, many states, metropolitan planning organizations (MPOs), and localities have had difficulty using traditional transportation planning and decision-making practices to implement the intermodal planning principles promoted by ISTEA. Implementation of ISTEA has been further complicated by ISTEA's incongruity with the existing institutional structures of urban transportation planning, funding, and delivery systems. The literature indicates that the many layers of planning and decision making embedded in the existing transportation institutions have resulted in inertia concerning intermodal planning. Significant funding shortfalls and complex implementation regulations, for example, often have been cited as key inhibitors to successful intermodal planning.

TABLE 1-1

KEY REFORMS OF ISTEA

- Increased authorized spending by 28%.
- Doubled the authorization of transit and made many highway funds eligible for transfer to transit. Made the non-federal match 20% for most programs to remove any financial disincentive for transferring funds.
- Channeled metropolitan planning for transit through the states for the first time.
- Required new style of more detailed and more effective "performance" planning by the state DOTs and MPOs.
- Authorized $1 billion a year to help pay for congestion management and air quality improvement.
- Used the fiscal capacity of recipients as consideration in non-federal match for certain fixed guideway transit capital investments.

Source: Bruce McDowell, "Reinventing Surface Transportation: New Intergovernmental Challenges," *Intergovernmental Perspective*, Winter 1992.

Some states and regions have made large strides in furthering intermodal planning principles. Many others have fallen short of expectations. Now decision makers at all levels are searching for strategies to overcome the institutional barriers to intermodal planning.

RESEARCH OBJECTIVES

The objective of this research is to develop strategies to overcome institutional barriers that hinder full achievement of a national intermodal transportation system. To accomplish this objective, the research panel asked the research team to: (1) identify barriers related to planning, decision making, funding, operating, and implementation; (2) categorize the institutional barriers at all levels of government and characterize their individual significance and impacts; and (3) cite specific successful examples of intermodal planning.

INTERMODALISM DEFINED

During the course of the research, it was apparent that the participants did not share a common understanding of the term intermodalism. When ISTEA was first approved, a U.S.

Department of Transportation (DOT) working group defined the following key elements of the intermodal approach:

- Choice among transportation options provided by competing modes, independently or in combination (Choice also means that decision makers need to consider alternative systems to address transportation needs before investing in transportation infrastructure);

- Connections that provide the convenient, rapid, efficient, and safe transfer of people or goods from one mode to another (including end point, pickup, and delivery) during a single journey to provide the highest quality and most comprehensive transportation service for cost (This research focused on movement of people); and

- Coordination and cooperation among transportation organizations to improve transportation service, quality, safety, and efficiency across all modes or combinations of modes in an environmentally sound manner.(2)

The focus of the present research is on surface passenger transportation.

REPORT OVERVIEW

The next chapter provides an overview of the research methodology. In Chapter 3, structural, interjurisdictional, and resource barriers to intermodal planning are described and analyzed. In Chapter 4, national survey findings are presented and priority opportunities for improving the intermodal planning process are identified. In Chapter 5, attributes that enhance local ISTEA implementation are presented. Examples of successful intermodal planning practices are highlighted in addition to summaries of the three implementation forums. In Chapter 6, strategies to improve the institutional relationships necessary for a cooperative and coordinated approach to intermodal planning are suggested. Finally, in Chapter 7, research conclusions are provided and areas for additional research are suggested.

CHAPTER REFERENCES

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2. RESEARCH APPROACH

This research project consisted of the following four distinct stages:

Stage One: A list of institutional barriers that impede intermodal planning and decision making was compiled through a literature review and interviews with 41 representatives of MPOs, state DOTs, transit agencies, U.S. DOT, and industry associations.

Stage Two: Respondents to a nationwide mail-back survey of 421 individuals responsible for intermodal planning at the local, regional, and state levels identified the priority opportunities for improving the intermodal planning process.

Stage Three: Three implementation forums were held in Albuquerque, New Mexico; the Austin-San Antonio Corridor in Texas; and Queens, New York. These 2-day action-planning sessions involved transportation planners at all levels and decision makers from both the private and public sectors. This grass roots approach enabled the research team to learn about the institutional barriers that exist in different regions and to document the strategies the participants had developed for overcoming barriers.

Stage Four: Strategies were identified that enhance the decision-making context for intermodal planning. Key attributes that improve the local ISTEA implementation process were summarized.

The following discussion highlights the key elements of each stage of the research. An overview of the research is presented in Figure 2-1.

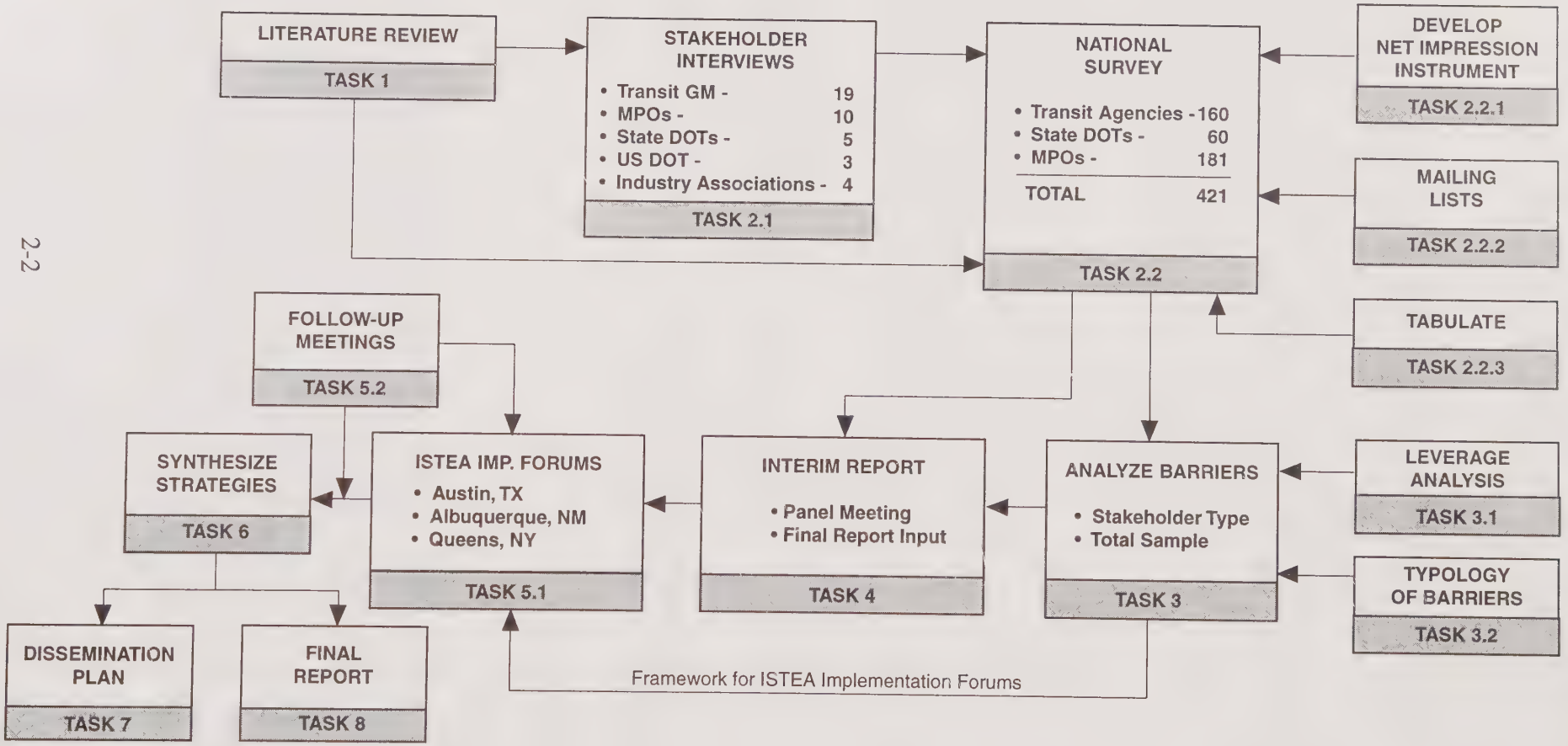
STAGE ONE

Literature Search

Transportation researchers and practitioners have reviewed, analyzed, and provided commentary on the acceptance and practice of ISTEA's policies in several ways. Literature search efforts included studying numerous journal articles that characterize the impacts of ISTEA on intermodal planning; reviewing several surveys designed to measure industry acceptance and overall effectiveness of the various policies contained in ISTEA; and reading proceedings from conferences sponsored by federal agencies, transit and highway advocacy associations, and transportation research organizations to address the new institutional relationships that ISTEA promotes. All of these activities, either in their entirety or partially, focused upon the issue of institutional barriers to the implementation of ISTEA's

FIGURE 2-1

OVERVIEW OF RESEARCH PLAN



intermodal policies and flexible funding provisions. Brief highlights of several relevant literature citations are presented below. A sample synopsis of an important literature citation is presented on the next page. Other literature citations are included in the remaining chapters of this report.

In December 1992, at the request of the U.S. DOT and its modal agencies, the TRB conducted a conference to address ISTEA—*Intermodal Planning Issues: The Concept, The Practice, The Vision.* This conference took a retrospective view of transportation planning, and overlaid the new planning requirements in ISTEA to ascertain the willingness and likelihood that the transportation industry, its planners and decision-makers in particular, would embrace the intermodal concepts and requirements contained in ISTEA. During the course of this conference, numerous institutional barriers believed to affect the implementation of ISTEA and lessen the achievement of its objectives were identified. As part of the conference proceedings, barriers capable of hindering the implementation of ISTEA objectives were defined.

In November and December 1993, U.S. DOT Secretary Federico Peña conducted regional meetings throughout the country to obtain transportation stakeholder views on how ISTEA works in different communities. In the words of Secretary Peña, "this series of ten meetings highlighted the success stories, glitches, snags and failures associated with ISTEA's implementation."(3) Throughout the course of these meetings, barriers rooted in planning, funding, and program implementation requirements of ISTEA surfaced. The outcome of these meetings was a seven-point action plan describing Secretary Peña's strategies for achieving ISTEA goals.

Also, in February 1994, the American Public Transit Association (APTA), under a cooperative agreement with the FTA issued *APTA's ISTEA Implementation Progress Report #2 Results.*(4) This report conveyed the results of a second round transit industry survey assessing to what extent large and small urbanized areas are implementing ISTEA requirements. The report contained a summary of findings from the questionnaire, brief case studies of several transit systems highlighting ISTEA-related experiences, and a chart depicting the progress each respondent had made in implementing ISTEA requirements. While some transit agencies did succeed in achieving some ISTEA requirements, most agencies indicated limited progress in this regard.

SAMPLE LITERATURE SYNOPSIS:
MPO CAPACITY: IMPROVING THE MPOs TO HELP IMPLEMENT NATIONAL TRANSPORTATION POLICIES

ISTEA created new roles for the nation's 339 officially recognized metropolitan planning organizations (MPOs). MPOs are responsible for the transportation planning required to keep their regions eligible for federal highway, transit, and surface transportation funds. This newfound importance, however, came at a time when many MPOs had fewer capacities than needed to perform their planning functions, and when it was difficult for them to expand. The FHWA asked the U.S. Advisory Commission on Intergovernmental Relations to study MPOs to show how current practices can be brought into closer alignment with ISTEA expectations.

Key Findings

- ISTEA has placed new pressures on MPOs to (1) review and/or change their structure; (2) produce more comprehensive, more thoroughly developed, and more realistic plans; (3) speed up their planning processes; and (4) take on a stronger political decision-making role.
- Many MPOs have responded positively to the new ISTEA requirements, but believe (1) the ISTEA goals will be difficult to achieve in the short run and (2) the expectations are too complex and burdensome.
- Significant gaps exist in the knowledge needed to implement ISTEA effectively, efficiently, and equitably.
- MPOs are not all alike, and they should not be expected to perform alike.
- Most MPOs are not governments and do not exercise clear lines of authority.

Guiding Principles

Efforts to improve MPOs should include the following:

- Informing more than regulating;
- Creating a common understanding among all partners about what ISTEA requires in a practical working sense; and
- Creating a closer, more trusting relationship among all partners in the MPO process.

Key Recommendations

U.S. DOT should do the following:

- Establish a more comprehensive capacity-building program for MPOs.
- Consider reorganizing its training, research, and field units to deliver a more unified, coherent, effective, and efficient capacity-building program.
    - Couple its MPO capacity-building program with a program to reduce regulatory burdens on the MPOs and their partners in the cooperative transportation planning process.
- Support a mediation, conciliation, and peer-review service.

State DOTs should:

- Be active partners with the federal government in helping to strengthen the capacity of MPOs.

MPOs should:

- Cooperate with all their partners to strengthen their own capacities to be respond to the goals of ISTEA.

Source: U.S. Advisory Commission on Intergovernmental Relations, *MPO Capacity: Improving the Capacity of Metropolitan Planning Organizations to Help Implement National Transportation Policies,* A Commission Report, A-130, Washington D.C. (May 1995).

The literature review and researcher expertise provided the framework for 41 in-depth interviews of key executives of transit agencies, MPOs, state DOTs, and industry associations. The objectives of the interviews were to do the following:

1. Shape a nationwide survey regarding barriers and opportunities to improve intermodal planning and decision making;

2. Identify the range of intermodal planning factors that are most important to the stakeholders;

3. Understand the complexity of institutional barriers at the regional and state levels;

4. Solicit suggestions from stakeholders on the most effective strategies to overcome or overpower existing barriers; and

5. Obtain specific examples of changes that would improve the respondent's organizational capability to achieve ISTEA objectives.

A sampling plan was developed to select stakeholders to be interviewed by phone. For the transit agency general manager interview, six general managers from five geographic regions (based on FTA regions) were contacted for an interview. Across all regions, a total of ten small, medium, and large transit agencies were invited to participate in the stakeholder interviews. For medium and large transit agencies, the properties were divided further between air quality attainment and nonattainment areas. The transit agencies were selected randomly from within the categories. Of the 30 transit agencies contacted, 19 agreed to participate in the research effort.

A stakeholder interview guide was sent to all research panel members for review. The interview guide contained the following distinct sections:

1. Organizational capabilities,
2. Organizational structure and culture,
3. Institutional incentive structures and legal regulatory framework,
4. Financial resources, and
5. Support of intermodal planning and decision making.

The research panel's comments were incorporated into a revised interview guide. The final interview guide is included in Appendix A. A total of 19 transit agency general managers, 10 executive directors of MPOs, 5 directors of state DOTs, 3 U.S. DOT stakeholders, and 4 industry associations were interviewed.

The original interview plan also included several committee members of U.S. Congress. A brief interview was held with one congressional aide. The change in congressional leadership that occurred after the November 1994 election and the intensive legislative agenda that followed precluded additional interviews.

The interview team, consisting of senior transportation consultants, was instructed to probe the responses provided. Probing was essential in those instances when stakeholders

responded with routine and sometimes general answers to specific ISTEA issues. For instance, a question asking each respondent to identify one change that would improve his or her area's organizational capabilities to achieve ISTEA objectives repeatedly elicited the familiar transportation community response of "full funding of ISTEA." Although this is certainly a valid response, probing stakeholders elicited responses with considerably greater insight.

As a final step, comments from each stakeholder interview were summarized and analyzed to obtain a contextual understanding of the challenges confronted in pursuing intermodal planning and decision making objectives.

STAGE TWO

The national survey effort included formulating an analytical framework, designing the survey instrument, distributing it, and analyzing the results.

Nationwide Survey Design

Analytical Framework

The research team wanted to use an analytical tool that could identify the key opportunities for improving the intermodal planning process. Net Impression®[1] analysis is a very effective analytical tool that has been successfully applied in both the private and public sectors to improve customer satisfaction and performance in those areas that influence achievement of goals the most. Net Impression® begins with qualitative research to define the broad expectations of performance—called *stakeholder arenas*. Figure 2-2 shows six specific stakeholder arenas that were developed based on the literature review, stakeholder interviews, and research team judgement. These six arenas represented the major categories that stakeholders appear to utilize when evaluating the overall performance of intermodal transportation planning.

These arenas convey what stakeholders believe needs to be achieved to enhance intermodal policy and planning. Arenas can range from a fairly specific operational concern, such as *ISTEA Funding Provisions and Regulations*, to something more abstract, such as *Leadership Support for Intermodalism* or *Governmental Coordination and Communication In Support of Intermodalism*.

Within each stakeholder arena, several statements--called intermodal planning factors--provide additional detail on what stakeholders believe constitutes requisite performance within an arena. Each series of intermodal planning factors relates to a specific stakeholder arena. For example, as also shown in Figure 2-2, intermodal planning factors within the *Leadership Support* arena might include "Fostering a vision and goals that encompass intermodalism" and "Encouraging communication among levels of government." The

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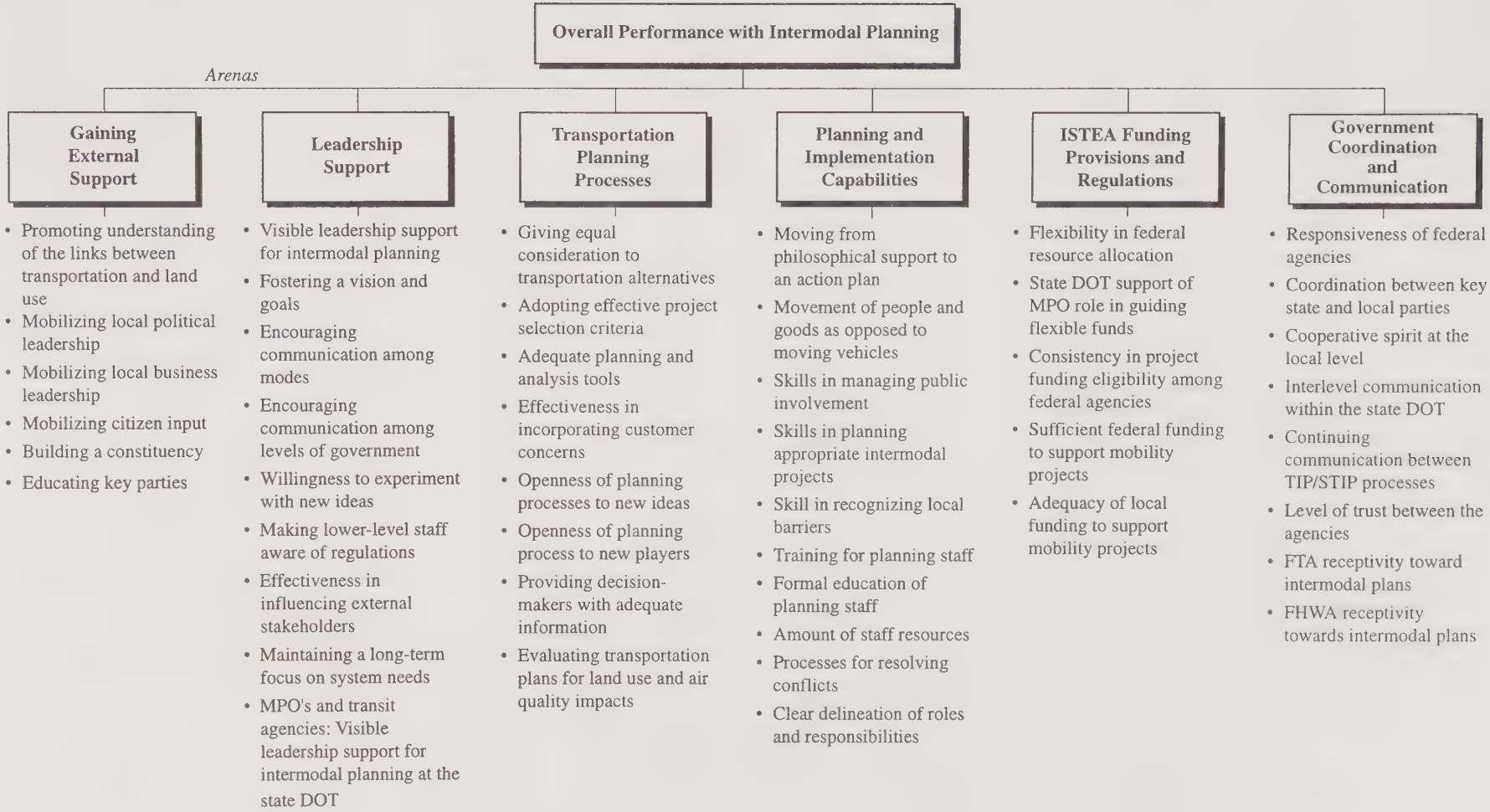
[1]Net Impression® is a customer satisfaction measurement model and proprietary software tool developed by Pacific Consulting Group in Palo Alto, California. A complete description of the Net Impression® Model is included as Appendix D.

FIGURE 2-2

CUSTOMER SCORECARD FOR INTERMODALISM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• Continuing communication between TIP/STIP processes
• Level of trust between the agencies
• FTA receptivity toward intermodal plans
• FHWA receptivity towards intermodal plans

research identified 46 intermodal planning factors in the six arenas. This provided the foundation for the survey instrument design.

Survey Instrument Design

For each of the intermodal planning factors, respondents were asked to evaluate how well their organization or jurisdiction performs in terms of fostering intermodal policies and planning for each intermodal planning factor. The 46 intermodal planning factors selected to evaluate in the national survey design were derived from the literature search and stakeholder interviews. For example, the factor, "Adopting effective project selection criteria," was a prevalent theme in both the literature and discussions with MPO and state DOT representatives. During this phase of the research, the research team reviewed written notes from the stakeholder interviews and literature review in order to best represent the planning factors that determine, from the stakeholders' perspective, what is good (or bad) performance in a broad category of performance such as *Leadership Support*.

Respondents were asked to note their overall satisfaction with the stakeholder arena in general. A scale of 1 to 7 was used where "1" means "Needs Major Improvement" and "7" means "Excellent." Each series of intermodal planning factors related to a specific stakeholder arena.

The nationwide survey questionnaire reserved space for stakeholders to make open-ended comments for each of the six improvement arenas. It specifically asked for stakeholder suggestions in improving the intermodal planning process.

A draft of the survey instrument was sent to the research panel for review and comment. Comments were received and incorporated into the final survey instrument, which is included as Appendix B.

Survey Distribution

After reviewing several sampling plan options, the research team decided to conduct a census of MPOs and state DOTs and a modified random sample of transit agencies. The following distribution method was utilized for the national survey of transportation professionals:

- Transit Agencies: To provide a representative sample of urban, suburban, and rural transit agencies, a combination of the APTA directory of public transit agencies and a random list of members provided by Community Transportation Association of America (CTAA) was utilized. The survey was sent to the general manager and the director of planning at these agencies.

- Metropolitan Planning Organizations: All MPOs in a list provided by the FHWA were sent a survey. Separate surveys were sent to executive directors and transportation planning managers.

- State DOTs: A directory provided by AASHTO members was utilized to send the survey to the director/secretary of each agency. If a department or division

of mass transportation was present, it was included in the sample. For the five states with the highest general population, a sample of three regional directors was also included.

SUMMARY OF NET IMPRESSION® TERMINOLOGY

Stakeholder: One who has a share or an interest, as in an enterprise.

Planning Arenas: Broad categories of performance in the intermodal policy and planning process.

Intermodal Planning Factors: Factors that determine, from the stakeholders' perspective, what good (or bad) performance in an arena might mean.

Leverage Analysis: Used to quantify the relative payoff to the intermodal planning process, in terms of stakeholder satisfaction, of making changes among and within arenas.

Leverage Scores: The output of the leverage analysis, expressed in percentage terms. The leverage score indicates a percentage increase in overall satisfaction within an arena resulting from a 50% improvement in an intermodal planning factor. In relative terms, leverage scores suggest an overall direction for change.

A total of 1,666 questionnaires were mailed the week of January 20, 1995 with a due date of February 10, 1995. A follow-up post card was mailed Friday February 3rd, reminding respondents to return the questionnaire. After a lower than expected response, the due date was extended 2 weeks and follow-up phone calls were made to states where a lower than average response rate was received. A total of 421 respondents returned the questionnaire. The results and response rate are summarized in Table 2-1. The table includes state DOTs, MPOs and transit agencies.

TABLE 2-1
STAKEHOLDER RESPONSE RATES

Stakeholder Grouping	Questionnaires		Response Rate	States Represented
	Sent	Returned		
State DOT	158	60	38.0%	70%
MPO	682	181	26.5%	86%
Transit Agency	826	160	19.4%	84%
Other*	NA	20		NA
TOTAL	1,666	421	25.3%	100%

* Self reported as city, county, Indian reservation, etc.

The survey responses provide a good overall representation of MPO, state DOT, and transit agency experiences and opinions on intermodal planning and policies. At the 95% confidence level, the maximum margin of error for the entire survey sample would be +/- 5%.

All 50 states and Washington D.C. are represented. Respondents included the following:

- 160 transit agency stakeholders representing 42 states
- 181 MPO stakeholders representing 43 states
- 60 state DOT stakeholders representing 39 states.

A more detailed profile of survey respondents is included as Appendix C.

Respondents provided a great deal of detail in the open-ended questions that solicited suggestions for improving intermodal planning and policies in their areas of jurisdiction. All open-ended questions were transcribed verbatim.

Survey Tabulation and Analysis

A computer model was used to analyze the Net Impression® survey responses. The model calculates, relatively speaking, where improvements will have the greatest impact on overall transportation stakeholder satisfaction with the intermodal transportation planning process.

A key output of Net Impression® analysis is leverage scores. (A detailed explanation of leverage analysis and leverage scores is provided in Appendix D.) Leverage analysis identifies the greatest opportunities for improvement in intermodal planning and decision making. It provides key relationships between stakeholder perceptions regarding specific intermodal planning factors with the degrees to which stakeholders care about them. Leverage analysis permits the comparison between the relative satisfaction and importance of different arenas and the relative satisfaction and importance of each intermodal planning factor. In general, leverage will be greatest in arenas where stakeholders report relatively lower satisfaction and perceive a particular arena or intermodal planning factor to be important to achieving desired goals and objectives.

The questionnaires were coded and keypunched, and a data file was used to run the Net Impression® software. The software identifies priority opportunities for improving intermodal planning practices. Analysis of Variance (ANOVA) was utilized to identify factors that explain variance in the survey respondent. T-Tests were utilized to identify statistically significant differences among the stakeholder groups. The mean satisfaction ratings and leverage scores for all six arenas and 46 intermodal planning factors are presented in a series of figures in Appendix E. Results are presented for stakeholder type: state DOT, MPO, and transit agency respondents.

STAGE THREE

Implementation Forums

The implementation forums were 2-day action-planning sessions; held in three regions of the U.S.; and involved local, regional, and state transportation planners and decision makers relevant to a particular jurisdiction. A key objective of the forums was for the participants to develop several initiatives that would enhance intermodal planning and decision making for their region. The implementation forums helped to achieve the research objectives by observing stakeholders in a real-world context crafting their own strategies to overcome institutional barriers to intermodal planning. The research work plan originally included four implementation forums, with a follow-up session 90 days after the original forum.

In the national survey mailing, an announcement was included on the implementation forums that described the implementation forum concept, the expected benefits, and how four sites would be selected. A total of 26 agencies responded to the survey solicitation. Each respondent was contacted by telephone to discuss the agency's interest in participating as an implementation forum site. A structured interview of five questions was used to guide this follow-up telephone conversation.

Following these telephone interviews, each candidate was reviewed within the context of the selection criteria and assigned to one of four categories. Group A included the four primary sites recommended for implementation forums: (1) Austin, Texas; (2) Chattanooga, Tennessee; (3) Albuquerque, New Mexico; and (4) Queens, New York. Group B consisted of agencies that could serve as satisfactory sites; however, their size and population paired with the perceived range of intermodal opportunities might limit the results and the transferability of strategies identified. Group C sites included interested sites not meeting the first-tier criteria. Group D was composed of those agencies that withdrew their candidacy after learning more about the implementation forum process.

Four candidate implementation forum sites were recommended for consideration by the research panel. The primary criteria used in the selection of the candidate sites by the researchers included:

- Experience and interest of the site in seriously pursuing intermodal objectives as stated in ISTEA,
- Barriers in the site's pursuit of intermodal activities,
- ISTEA-related objectives that the site would like to address and achieve,
- Issues addressed that could have transferable lessons for other transportation and regional planning agencies, and
- Enthusiasm by the host agency to assist in organizing the implementation forum and eliciting participation of appropriate individuals from stakeholder agencies.

The majority of H-4C panel members agreed with research team recommendations, and follow-up letters were sent to the four recommended sites to begin detailed planning of the forums. Participation agreements were reached with Austin, Texas (for the Austin-San Antonio corridor); Albuquerque, New Mexico; and Queens, New York. An agreement on participation by key stakeholder agencies could not be reached with Chattanooga, Tennessee, and they discontinued participation in the project. The research schedule did not allow the substitution of an alternate site.

The three implementation forums sites were selected because they provided representative barriers and priority opportunities for improvement that were identified as top priorities by both the stakeholder interviews and the national survey. For example, in the Austin-San Antonio corridor, the submission from the implementation forum host to the research team indicated poor interjurisdictional communication, an absence of corridor planning leadership, and modal separation. All of these were important barriers identified during the stakeholder interviews and national survey. There was also significant opportunities for improvement that reflected the priority intermodal planning factors, derived from the survey. There was a need to build constituencies, educate key parties about the benefits of intermodal planning, mobilize business leadership—all intermodal planning factors that were ranked in the top five (of 46 evaluated) for improvement opportunities.

Chapter 5 includes a summary of implementation forum outcomes. Appendix F includes a detailed description of implementation forums, relevant background information action plans, and a 90-day progress report. After the initial 2-day action-planning session, a follow-up session was held approximately 90 days later.

STAGE FOUR

Recommended Strategies

The centerpiece of the final stage of the research was the development of the research findings and recommended strategies. Ten specific strategies were developed based on the products of the three previous stages. A key lesson of the implementation forums was that specific action plans need to be developed locally. Chapter 5 suggests several attributes that the researchers believe will enhance intermodal planning at the local level. The recommended strategies in Chapter 6 are designed to enhance the decision-making context at the federal, state, and regional levels.

CHAPTER REFERENCES

3. U.S. Department of Transportation *Regional Roundtable Report and Action Plan, A Progress Report for Our Customers*, Washington, D.C. (March 1994), p. 1.

4. American Public Transit Association, "APTA's ISTEA Implementation Progress Report #2 Results." Washington D.C. (February 1994).

3. INTERMODAL PLANNING AND POLICY BARRIERS

Three major categories of institutional barriers emerged during this research: organizational, interjurisdictional, and resource barriers. The following section describes the nature and complexity of these barriers based on findings from the literature search, stakeholder interviews, and national survey. Figure 3-1 is an overview of these barriers.

ORGANIZATIONAL BARRIERS

The research showed that the organizational legacies, culture, and regulatory processes of many federal, state, regional, and local transportation organizations impede the enactment of an intermodal vision.

Modal Separation

Federal

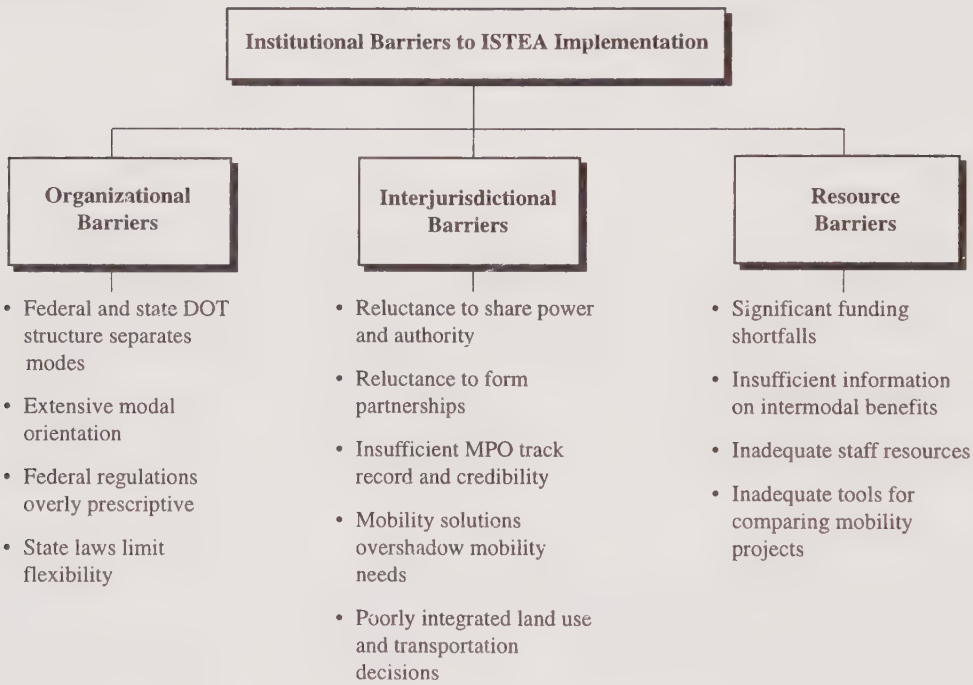
For the past 30 years, the Federal Transportation Act had a strong modal focus. Accordingly, transportation agencies were organized around mode-specific planning, research, and funding. Funding programs and policies neither required nor encouraged transportation plans or projects to achieve modal integration. The Interstate Substitution Program, which allowed the use of federal highway funds for transit projects, was the one notable exception. Since ISTEA, there has been some movement toward restructuring at the U.S. DOT, but many state DOTs continue to plan and operate modes separately.

In 1995, President Clinton and U.S. DOT Secretary Peña announced intentions to consolidate the surface transportation agencies--highways, transit, and railroads into an Intermodal Transportation Administration. The effectiveness of this reorganization will depend, in part, on ensuring that different modal interests receive due consideration when mobility plans and transportation options are discussed. An executive at the FTA remarked that the challenge is to "ensure that all modal contributions and options continue to be assessed equally." The separation of modes that still predominates today is reflected in strong sentiments articulated by transportation planners and managers at the local and regional levels regarding transit agency isolation, insufficient intermodal planning guidance, complex regulations, and a prevailing highway preference. The following is a sample of these sentiments:

- "The U.S. DOT needs to truly represent and enforce an intermodal perspective; increase internal communication and coordination; and increase staff support, provide clear guidance, and increase funding flexibility, while reducing oversight and simplifying regulations."

FIGURE 3-1

OVERVIEW OF INTERMODAL PLANNING & POLICY BARRIERS


Institutional Barriers to ISTEA Implementation
Organizational Barriers
Interjurisdictional Barriers
Resource Barriers
• Federal and state DOT structure separates modes
• Extensive modal orientation
• Federal regulations overly prescriptive
• State laws limit flexibility
• Reluctance to share power and authority
• Reluctance to form partnerships
• Insufficient MPO track record and credibility
• Mobility solutions overshadow mobility needs
• Poorly integrated land use and transportation decisions
• Significant funding shortfalls
• Insufficient information on intermodal benefits
• Inadequate staff resources
• Inadequate tools for comparing mobility projects

- "The U.S. DOT needs to clearly represent an intermodal perspective and enforce ISTEA objectives locally and nationally."

- "The U.S. DOT needs to improve internal coordination and communication, including possible organizational restructuring."

- "Our State DOT shows major intermodal commitment; in contrast, evidence of intermodal support by U.S. DOT is not obvious."

- "Little direction or guidance is provided by federal agencies regarding intermodal opportunities."

The research found significant variation in how different stakeholders view the impact of modal separation at the federal level. During the stakeholder interviews, several senior federal staff members remarked that the existing U.S. DOT organizational structure does not have a negative impact on intermodal activities. It was also their view that the organizational structure is not impeding the review and approval of intermodal projects.

MODAL INTEGRATION WILL TAKE TIME

Louis Gambaccini, Chief Operations Officer and General Manager of the Southeastern Pennsylvania Transit Authority, reminds us that organizational responses to ISTEA will take time: "As I seek to maintain patience with the ISTEA process, I continue to remind myself that the highway program has had 75 years to develop its universe and transit now almost 30 years. It will take more than a few years for the barriers between the two of them to fall and for the parties to become convinced that the issue really is mobility, not who gets to provide it." (5)

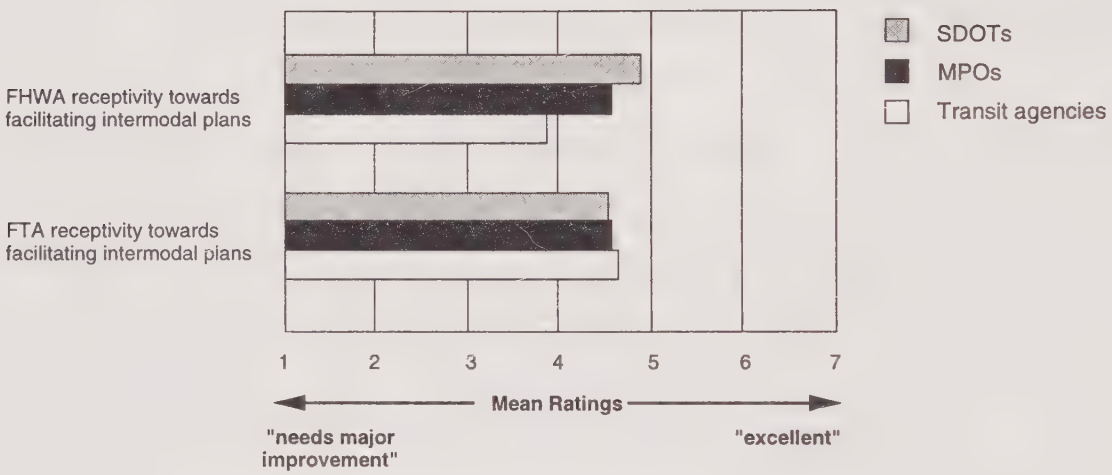
Figure 3-2 shows the contrast in transit agency, MPO, and state DOT perspectives on federal agency receptivity toward facilitating intermodal plans. Transit agency respondents believe that the FHWA needs to improve significantly more than do MPO and state DOT respondents. In contrast, there is little stakeholder variance in rating FTA receptivity to intermodal plans.

State

Few organizational arrangements promoting and fostering intermodal transportation planning exist at the state level as well. On the whole, highway agencies are an

FIGURE 3-2

FEDERAL AGENCY RECEPTIVITY TOWARDS FACILITATING INTERMODAL PLANS



organizational part of state DOTs. They have developed an established and effective relationship. Transit authorities, while linked to regional agencies and state DOTs, are independent agencies.

Many transportation stakeholders felt that state DOTs still adhere to a strong modal preference favoring highways. Remarks such as "Change the highway mentality of DOT officials" and "Revamp state DOTs to make them transportation departments *not* highway departments," convey this sentiment by those outside the state DOT structure. Overall, respondents remarked that state DOTs need to develop an intermodal perspective and policies, establish better communication, facilitate coordination regarding intermodal planning, and become more flexible in selecting approaches to meeting transportation needs.

Historically, transit authorities have been viewed by state and metropolitan agencies as operators of transit service rather than as members of the transportation planning community. An exception is Maryland where the regional transit agency is an organizational unit of the Maryland DOT along with the State Highway Administration and several additional modal agencies. When transportation planning and capital programming decisions are discussed, transit, highway, rail, airport, and port managers jointly meet to discuss transportation needs and make programming recommendations. This organizational arrangement is unique.

One official at a large western transit agency reflected on the problem: "How can transit be considered in the development of state transportation plans and projects if we aren't part of the family discussing projects or taking part in making funding decisions?" Although some transit agencies have been invited to participate in local and state transportation planning efforts, significant room for improvement remains—particularly in small urban and rural areas.

Several rural transit and small urban area properties in rural states reported that progress advancing intermodal planning and policies has been very slow since the advent of ISTEA. A typical case is a small transit system in the Rocky Mountain region, where the transit manager feels that transit is still the "orphan stepchild," but reports small but significant steps towards taking advantage of the ISTEA policies. In this recently designated urbanized area with a population of 55,000, the transit agency chairperson now sits on the MPO policy board. The state has allowed flexibility "grudgingly," and the transit manager reports numerous barriers that severely limit the actual obligation of flexible funds. The orientation toward highways in this rural state is "unquestionable," according to the transit manager. The state provides no funding for transit and severely limits local options for raising transit monies.

Organizational Culture and Modal Preference

An organizational culture develops through years of subtle definition and nurturing. Such culture, reinforced by the agency's mission statement, is continually reinforced by

senior managers and staff alike; the culture is perpetuated during the training of new employees. A modal preference is endemic to most transportation organizations. Highway and transit agencies have historically strengthened their *esprit de corps* by reinforcing the importance of their individual mode and organizational purpose.

In many situations, there is a dichotomy between the organizational mission of transportation agencies and the intermodal objectives of ISTEA. In particular, the mission statements, or implied missions, of highway agencies and transit agencies relate directly to their respective modes. The missions do not reflect a coordinated or comprehensive approach to mobility management. For instance, it is common in a highway agency to encounter a mission statement that reflects the following elements--*maintain a safe, efficient, extensive interstate highway and local road network*, or the mission of a transit agency which states--*provide an efficient, safe, clean, and affordable alternative to the automobile*. Until the mission statements of transportation agencies reflect the need to coordinate and cooperate, the organizational mission will dwarf transportation plans and projects consistent with ISTEA's vision. Recognizing the importance of an intermodal mission, a director of planning for a California MPO remarked, "We need to develop effective partnerships to share information and collaborate. We need consistent goals up-front."

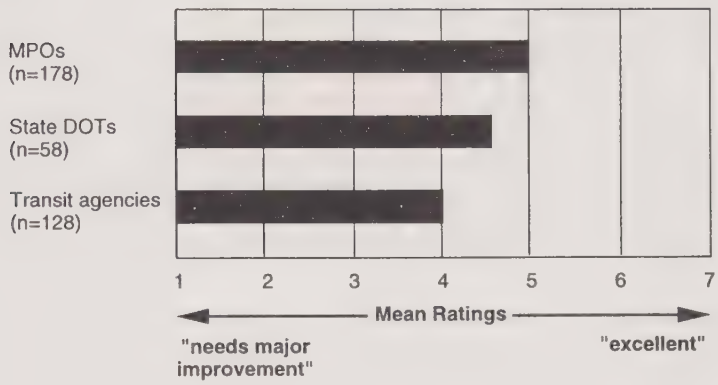
Many agencies have resisted, or even ignored, federal intermodal planning policies and requirements in order to reinforce the traditional modal culture which they understand and to which they adhere. Frustration regarding the effect of organizational culture on the intermodal planning process was addressed by a planning director of a northeastern MPO who said, "break down artificial barriers of mode-based agencies so sound intermodal decisions can be made."

Numerous transit agencies and MPOs singled out insufficient intermodal support by state DOTs. A transit planner in the Southwest succinctly expressed this sentiment: "We need to change the highway mentality of DOT officials." An MPO in the Midwest conveyed that "the state DOT's mindset towards highways became strengthened by competition for the same funding between transit and roads. One-person one-vehicle is the state DOT mentality....(the issue is) highways against transit." A respondent from a transit agency sums up the perspective by stating, "Modal bias is the political reality."

The national survey revealed significant variance among stakeholders in how well their regions and states were considering the full range of transportation alternatives in the planning process. As shown in Figure 3-3, transit agencies generally believe there is more need for improvement than do MPOs or state DOTs. Within the transit industry, this intermodal planning factor had the most variance of all 46 factors evaluated. For transit agencies the mean was 4.0, but the standard deviation was 1.8. Part of the explanation for the variance is whether a region is an air quality attainment area. For transit agencies, presence in an air quality attainment area had a 0.4 rating point positive effect on the consideration of alternatives.

FIGURE 3-3

HOW WELL DOES YOUR PLANNING PROCESS GIVE EQUAL CONSIDERATION TO THE FULL RANGE OF TRANSPORTATION ALTERNATIVES?



Source: National Survey of Stakeholders

The incentive structure of public institutions was also identified as a barrier to successful intermodal transportation planning and policies. The reward of a successful business is greater profit; the reward of a public agency's success is better public service. Better public service is intangible and, therefore, a somewhat weaker motivator than profit. It could, however, result in less funding or revenue for a particular mode. For many modal agencies, an internal measure of success is the magnitude (dollars) of their respective capital programs, the size of their transit fleets, or their total miles and lanes of highway. Intermodalism can effectively reduce any of these measures without compensating with new measures of success. Therefore, intermodal projects can represent a threat to management and a work force evaluated on criteria that may conflict with their new objectives or that does not reflect the new (ISTEA) objectives.

Regulatory and Legal Restrictions

Federal

When decision makers pursue an intermodal plan, they face complex federal funding procedures. Many state DOT, MPO, and transit authority officials said the FHWA and FTA are not organized to efficiently process intermodal projects. "The modal-oriented organization of the U.S. DOT does not facilitate the easy pursuit of intermodal project planning approval or funding approval," said a senior official of a southwestern DOT. Several officials gave accounts of having to split project elements along modal lines in order for federal funding requests to be considered. In similar instances, FHWA and FTA often interpreted project eligibility differently. In one case, a state DOT, denied funding by FTA, submitted the same project to FHWA and obtained federal approval.

In general, most stakeholders say ISTEA's implementation regulations are not working well. As summarized by the Secretary of a western state DOT, "Regulations to date are too much, too detailed, overly prescriptive, not realistic, sometimes extending far beyond the intent of the parent legislation..."
Many transportation stakeholders specifically pointed to the planning, conformity, and management systems regulations as cumbersome and an expensive block to the realization of ISTEA's full potential. This issue also repeatedly surfaced at all ten of the U.S. DOT regional roundtable meetings.(6)

In the national survey responses, the extent of federal regulations under ISTEA was frequently criticized by respondents. "Less prescriptive regulations from FHWA to develop state intermodal facilities" and "The feds should move from regulators to facilitators" were comments made by state DOT and MPO officials in two midwestern states. Many transportation stakeholders also referred to the federal regulations governing the implementation of ISTEA as "overkill." As one representative from a transportation agency in a western state remarked, "This excessively broad application of administrative policy clearly constitutes regulatory overkill and is a major obstacle to our efforts to provide efficient and cost-effective transit services."

In late 1995, in response to stakeholder concerns, Congress made ISTEA's management systems requirements voluntary, except for the Congestion Management System in urban areas with a population over 200,000.

State

State and local laws also impede the implementation of intermodal transportation projects. Maryland, Pennsylvania, Oregon, Georgia, and Missouri are some of the states with legislation either prohibiting or limiting the use of state gasoline and automobile-related taxes to highway-related uses. Many of these restrictions stem from pre-ISTEA legislation. Several transportation planners remarked that similar prohibitions have been passed by their state legislatures since ISTEA's passage.

There have been some successful efforts to eliminate or lessen such restrictions on state tax prohibitions. These modifications either have broadened the definition of revenue eligibility by including intermodal projects in the law or by specifying a percentage of the tax fund permitted for non-highway transportation projects. However, many states have not been successful in relaxing the constraints placed on these tax revenue laws. One such state is Georgia. Despite attempts to permit the use of state gas tax funds for transit purposes, the Georgia gas tax remains constitutionally restricted to highway-related projects. In Michigan, the state Constitution limits transit to 10% of the state transportation fund, and according to one survey respondent, "There is no sentiment to increase this percentage."

Interjurisdictional Barriers

Transportation planning requires significant interjurisdictional cooperation among federal, state, and regional agencies as well as with the public and special interest groups. The net effect of ISTEA is that it shifted the focal point of decision making about federal transportation funding from the professionals at the state DOTs to a shared responsibility between the state and the MPOs. These MPOs were charged with "opening up" the process to include all modes, all levels of government, and the public. According to the Surface Transportation Policy Project (STPP), the clearest winners have been those willing to make alliances with new stakeholders who participate actively in the planning process.(7) For those states that had limited success in achieving this shared responsibility, the following barriers were the most critical.

Different Views About Authority and Responsibility

The national survey found that the intermodal planning factor, "Clear delineation of roles and responsibilities for intermodal projects," had the second lowest satisfaction rating for the *Intermodal Planning and Implementation Capabilities* arena. It is an area of improvement identified by all stakeholder groups.

Over the years, state DOTs have established themselves as cornerstones of transportation policy, programs, and decision making within their transportation community. They have benefited from consistent and predictable levels of federal and state funding and are often the benefactors of substantial support from elected officials, the business community, and a very active and formidable constituency of highway-related special interest groups.

The national research revealed, however, that many MPOs and state DOTs have significantly different interpretations of ISTEA guidelines. In one western state, an MPO described how the state DOT believed it has full discretion to use state-allocated Surface

Transportation Program (STP) monies—even in transportation management areas with significantly more than 200,000 in population—and proceeded with highway projects that other stakeholders oppose. An eastern MPO said the state DOTs did not understand that the MPO should lead project selection because it is also a transportation management area (TMA). The MPO did not want to directly challenge the powerful state agency, so the transition to intermodal planning has been "slow and gradual."

Reluctance to Form Partnerships

Transportation planning decisions involve many local, regional, state, and federal officials. Because each agency has its own agenda, studies, and processes, decisions often reflect political concerns as well as transportation needs. This issue was discussed at all three implementation forums. In Albuquerque, New Mexico, the City was sponsoring a major evaluation of transportation and land use within city limits and was undertaking a major study of light rail; the County was evaluating a regional transit authority; the MPO was developing a strategic plan to reorganize to better meet the transportation and land use needs of the region; and the State was undertaking a major reconstruction of a freeway interchange and the evaluation of a high-occupancy-vehicle (HOV) lane.

A related problem is that the purposes and responsibilities for intermodal planning and policies are not well defined. In New York, the lead planning agency for the Sunnyside Intermodal Terminal is the Metropolitan Transportation Authority (MTA). In parallel, the MTA, the Port Authority and New Jersey Transit are undertaking a major "Access to the Core" study. Freight interests need to be considered in the Sunnyside Intermodal Terminal, but MTA's mission is limited to the transportation of people. In the San Antonio-Austin corridor, until recently, different major investment studies were being undertaken with little coordination among the different MPOs, transit agencies, and the Texas state DOT (TxDOT). In all three areas participating in the implementation forums, jurisdictional confusion and inadequate interjurisdictional communication have impeded intermodal planning.

The importance of establishing authority and responsibility early in the planning process is characterized in a simple model of change developed by Michael Meyer (8) through case studies of federal policy adoptions in numerous metropolitan areas. Dr. Meyer contends that resolving issues of authority, responsibilities, and procedures for decision making enables the organizations involved to address issues of substance effectively.

Insufficient Track Record

The challenge of establishing partnerships to promote intermodal planning and policy is exemplified by the effort of MPOs to meet the responsibilities assigned to them by ISTEA. ISTEA established Transportation Management Areas (TMAs) with more authority, responsibilities, and requirements in planning functions for urbanized areas with a population over 200,000. An example of this additional authority is project selection in specific financial programs such as STP-urban funds in consultation with state officials.

The research found that some MPOs, such as the MTC in the San Francisco Bay Area and the Denver Regional Council of Governments, have embraced their new

responsibilities and are effectively guiding a new transportation planning and programming decision process. Other MPOs are just getting started.

Institutional forces and insufficient intermodal skills contribute to the difficulty encountered by many MPOs. Some MPOs do not possess a reputation for the strong leadership required to effectively perform these new responsibilities. A strong, noteworthy performance "track record" has been necessary for the state DOT to trust the MPO. For many MPOs, this has created a situation where the state DOT has not provided the MPO necessary transition time to develop a track record and, consequently, its trust.

When national survey respondents were asked to rate the "Level of trust between agencies involved with transportation planning," transit agencies had a significantly lower satisfaction rating than both the state DOTs and MPO respondents. One Rocky Mountain state transit agency addressed the insufficient trust between itself and the state DOT in describing a recent rail study. During the Regional Transportation Plan process, the public participation process identified a long-range opportunity for intercity rail service to improve air quality. The public participants worked with the MPO to obtain planning funds, but the state DOT decided to conduct the study on its own. The state DOT is not soliciting local input and expects little to come from study.

Mobility Solutions Overshadow Mobility Needs

Many elected officials view transportation projects as a way to accomplish goals other than mobility, such as economic development. Consequently, attention often focuses on transportation solutions rather than mobility needs. During the research, numerous examples were provided of how a transportation solution or project drove the entire planning process. The mayor who pursues the building of light rail without understanding the prerequisites is as much a barrier to sound intermodal planning as the highway engineer who focuses solely on a highway solution.

Poorly Integrated Land Use and Transportation Policies

The relationships between transportation and land use have long been discussed; observation and common sense confirm that they are related.(9) A key issue for this research is that unrelated governmental entities have decision-making power over transportation and land use decisions. The local city council or county board of supervisors normally has distinct authority over land use decisions. Transportation decisions often involve myriad local, regional, state, and federal officials.

The research provided several examples of how poorly integrated transportation and land use decisions affect transit service delivery decisions. In a midwestern college town, the general manager of a medium-sized transit district that serves several jurisdictions described how the City Council had approved a 3-million square-foot shopping center on the outskirts of town. According to the general manager, "No consideration was given to transit during the land use planning process." The Transit District Board of Directors subsequently decided not to serve this major auto-trip generator, because it would adversely affect its 30% farebox recovery ratio.

The TCRP is undertaking three research projects that address transit/land use issues: (1) *Transit and Urban Form*; (2) *Strategies for Influencing the Choice of Urban Travel Mode*; and (3) *The Cost of Sprawl—Revisited*.

Resource Barriers

Funding, information, staffing, and analytical tools are essential to the success of ISTEA's objectives. A deficiency in any of these resources was identified as a significant barrier in many jurisdictions.

Significant Funding Shortfalls

To date, ISTEA has not been fully funded. Adequate federal funding is critical to successful intermodal policy implementation according to most stakeholders; transit agency, state DOT, and MPO representatives were united in their dissatisfaction with current federal funding levels. Most state, MPO, and local transportation stakeholders support the need to fund ISTEA fully. It was a major theme in the interviews, national survey responses, and federal DOT roundtables on ISTEA implementation.(10) Facing significant funding shortfalls, an executive director of a California MPO suggested "providing funding at levels adequate to meet a region's intermodal needs, since planning without the ability to implement is meaningless."

Funding requirements caused by system maintenance needs for highways and transit, paired with the current levels of federal funding, reduces the likelihood that intermodal projects will be implemented and flexible funding decisions can transpire. In January 1993, the FHWA reported that the condition of the nation's highway pavement and mass transit infrastructure had improved over the last 10 to 20 years. In addition, bridge conditions had stabilized. However, even with these improvements, according to the FHWA report, simply maintaining 1991 conditions and performance of the nation's highways, bridges, and mass transit systems through the year 2011 will cost $55.5 billion annually. An additional $18.2 billion a year will be needed to improve conditions.(11) A highway official from one state noted that any new money received under ISTEA is not enough to cover the tremendous backlog of projects. As a result, according to this official, even though funds can be used flexibly and there are intermodal projects to implement in his state, highway projects will probably be considered before flexible funds are used for transit or intermodal projects.

A local elected official from a western town conveyed the sentiments shared by many transportation stakeholders that "Flexibility in the use of funds won't occur until the backlog of projects is taken care of. It isn't inequity in the use of money. It's that there isn't enough money."(12) And an MPO director of planning from a western state framed the issue of inadequate funding levels in this manner: "The funding flexibility has been well received in principle, but not in practice, due to the overwhelming backlog of prior commitments. Added funds are needed to clear out this backlog."

Surprisingly, transportation stakeholders interviewed and surveyed did not consider intermodal planning to be an opportunity to re-evaluate or define projects that can improve mobility and perhaps yield a more cost-effective and prudent expenditure of available funds. Instead, they indicate that insufficient funds are a barrier to intermodal efforts. It has caused transportation stakeholders to more closely focus on their specific modal needs instead.

Funding enables choices, facilitates partnerships, and yields more support for intermodal projects. Inadequate funding, paired with the funding flexibility allowed in ISTEA, fuels rivalry rather than cooperation—particularly between highways and transit. A director of a rural transit agency in the midwest conveyed this frustration: "Intermodalism is supported as long as transit doesn't try to access discretionary funds—when pitted against roads, transit loses every time." A director of a transportation research institution in the northwest summarized, "The fact that ISTEA has not been fully funded in the face of undeniable evidence of the large and growing unfunded needs of the nation's highway and transit systems is not only a betrayal of ISTEA's bright promise, but itself poses a significant hurdle to the new intermodal spirit which ISTEA promotes."

Insufficient Information

A small transit system administrator in the northern Plains summarized the need for better understanding about intermodal issues in many areas around the United States with the comment, "most local officials don't have a clue as to what intermodal planning means." In particular, elected officials lack the specific information necessary to understand and implement intermodal plans. The result, according to a very large East Coast transit agency, is that "we have developed intermodal strategic goals on paper, but they are lacking the underpinnings to make them a reality."

Respondents to the national survey indicated that provision of pertinent information was a key element to improving effectiveness of intermodal planning and decision making. Training was needed specifically for the following:

- Elected officials,
- The general public, and
- Planning and transportation commissioners.

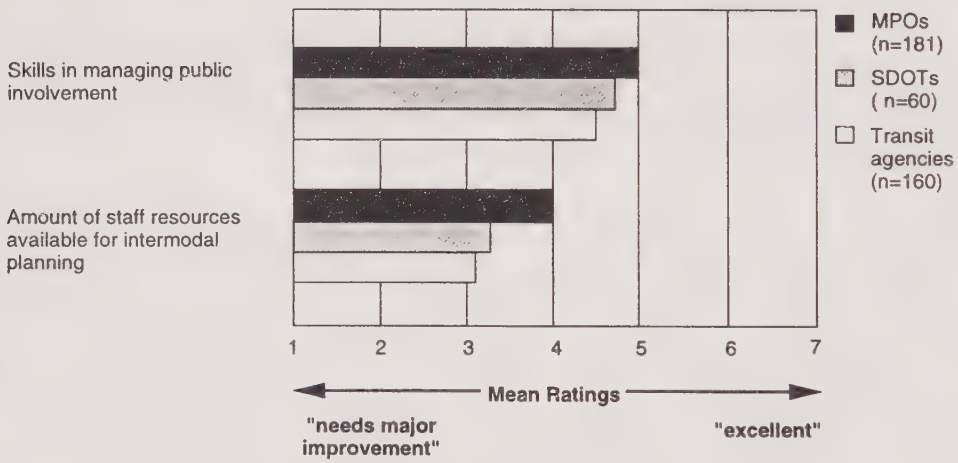
Numerous respondents asked for specific examples of intermodal planning practices that could be easily disseminated. A state DOT representative succinctly summarized what is needed: "Provide concrete examples of intermodal planning efforts that are: (1) not cost prohibitive; (2) result in cost beneficial decisions; and (3) lead to implementation."

Insufficient Staff Resources

Part of the problem is that staff resources are not sufficient to adequately advance intermodal planning. Figure 3-4 shows that most stakeholders are reasonably satisfied with the abilities of staff to facilitate public participation and plan specific intermodal projects, but are significantly less satisfied with the number of personnel available to conduct intermodal planning. Both the APTA and an executive level appointee at U.S. DOT estimate that more than 80% of professional transportation staff time is devoted to routine operational issues, short-term plans, and addressing immediate operational needs specific to the mode in which they are involved. Very little time remains to explore and address intermodal opportunities. ISTEA provides an opportunity for increased participation in the regional transportation planning process, but, faced with cutbacks in their operating budgets, many transit agencies, in particular, are finding that they do not have sufficient staff to participate as actively as they would like.

FIGURE 3-4

GOOD SKILLS, BUT INADEQUATE STAFF RESOURCES



Source: National Survey of Stakeholders

MPOs are similarly frustrated. According to a U.S. Advisory Commission on Intergovernmental Relations study that included extensive investigations of 18 MPOs serving 12 metropolitan areas, "this newfound importance [due to ISTEA], however, came at a time when many MPOs had fewer capacities than needed to perform their planning functions and when it was difficult for them to expand."(13)

Inadequate Tools for Comparing Mobility Projects

ISTEA emphasizes selecting solutions to transportation needs rather than modes. Choosing projects according to mobility has proven to be difficult for both MPOs and state DOTs. According to the Executive Director of the CTAA, "it is difficult to make transportation decisions predicated upon mobility, when there is no agreed definition of the term. While the poor definition can work to the benefit of some special interests, in their advocacy of a particular project, this absence of definition might be the source of confusion in the decision-making process."

There is also no common measure of multimodal mobility. This point was made repeatedly during this research and is validated by the recently completed *NCHRP Synthesis of Highway Practice 201: Multimodal Evaluation in Passenger Transportation.* This synthesis concludes, "Clearly, mobility needs to be defined and measured. Mobility defined as highway level of service does not lead to multimodal solutions."(14)

What is the correct formula? Are the correct weightings given to the decision-making variables? Are the results interpreted correctly? Most importantly, is the process constructed to select the best mobility approaches to transportation needs? Decision makers need tools to measure these and other indicators of success. The research revealed that existing measures often exclude intermodal planning options early in the process.

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4. OPPORTUNITIES FOR IMPROVING INTERMODAL PLANNING: NATIONAL SURVEY FINDINGS

Significant challenges facing intermodal decision makers are what social scientist Kurt Lewin describes as *restraining forces*.(15) Intermodal planning is a dynamic process with factors working to facilitate changes, called *driving forces*. The current effectiveness of intermodal planning in a given region reflects the degree to which driving forces overpower restraining forces. The national survey results helped identify driving forces that have the most leverage for improving the intermodal planning process. This chapter presents the national survey findings on the priority opportunities for improving the intermodal planning process. Chapter 5 then discusses the specific attributes and successful practices that enhance intermodal policies and planning at the local level as synthesized from the national survey, stakeholder interviews, and the implementation forums.

A primary purpose of the national survey was to identify priority opportunities for improving the intermodal planning process. In order to identify priority improvements, a satisfaction measurement model called Net Impression® was utilized extensively. The model is discussed in Chapter 2, with a more complete explanation provided in Appendix D.

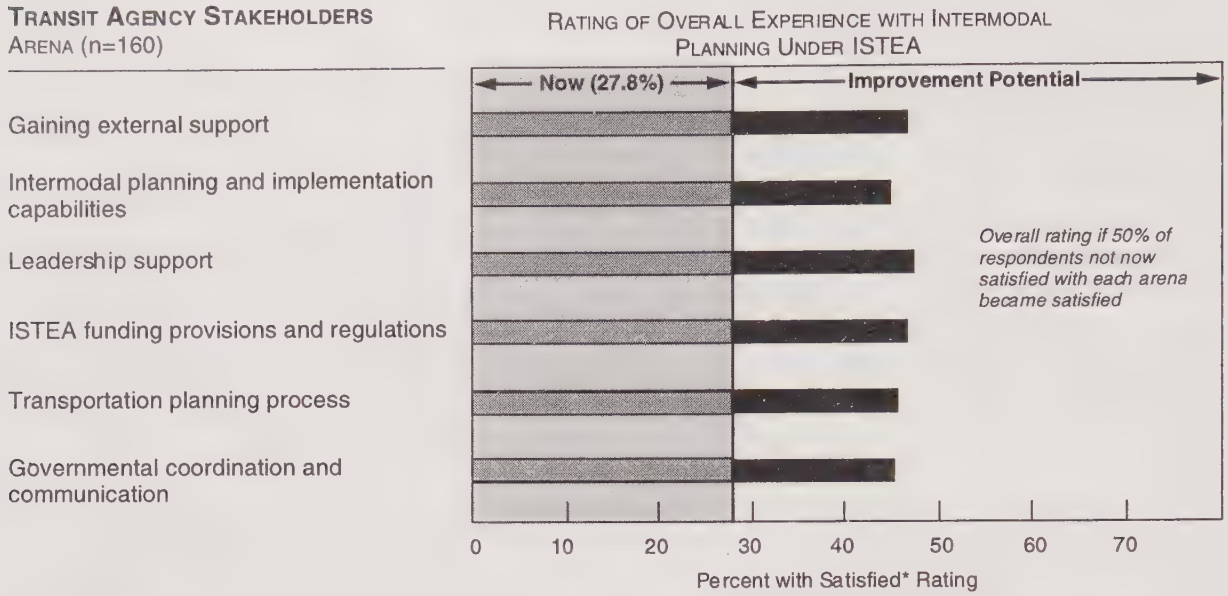
The Net Impression® model evaluates two levels of opportunities for improvements. The first level evaluates the impact of improving the satisfaction ratings for broad categories of performance (called *arenas*) on the respondents overall rating of their agency's experience with intermodal planning under ISTEA. Figure 4-1 illustrates the different stakeholder perspectives on the improvement potential for each intermodal planning arena. The figure is referenced several times in the discussion of key findings to highlight different stakeholder perspectives. Within each arena, several factors (referred to as *intermodal planning factors*) determine, from the stakeholders' perspective, what good (or bad) performance in an arena might mean.

The second level of the Net Impression® model evaluates how improved satisfaction in 46 intermodal planning factors will influence the respondents overall rating of the six arenas. Figure 4-2 highlights the intermodal planning factors that were ranked in the top ten for each of the three stakeholder groups: transit agencies, MPOs, and state DOTs. The intermodal planning factors that were ranked in the top ten by one or two stakeholder groups, but not by the third, are also noted.

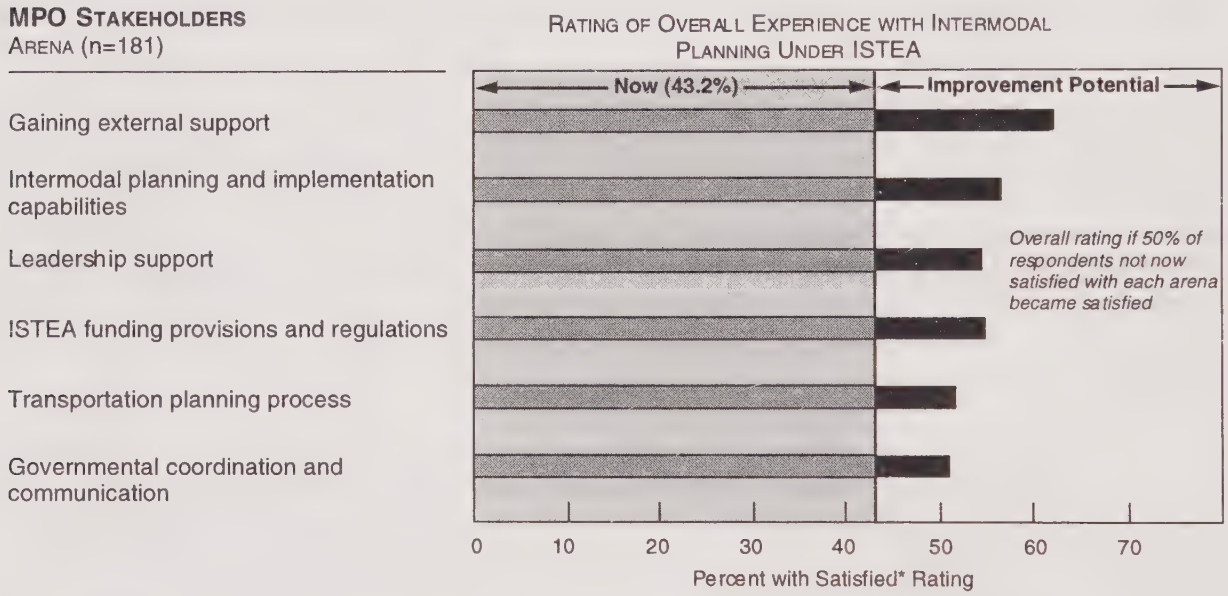
The findings discussed in this chapter are based on the quantitative evaluation of the national survey, a qualitative evaluation of the open-ended questions, and the stakeholder interviews that provided the framework for the survey. For each finding, relevant data from the national survey is utilized to support the finding. As appropriate, examples from the literature review and stakeholder interviews illustrate how different regions or states have addressed the particular finding.

FIGURE 4-1. STAKEHOLDER PERCEPTIONS OF ARENA IMPROVEMENT POTENTIAL

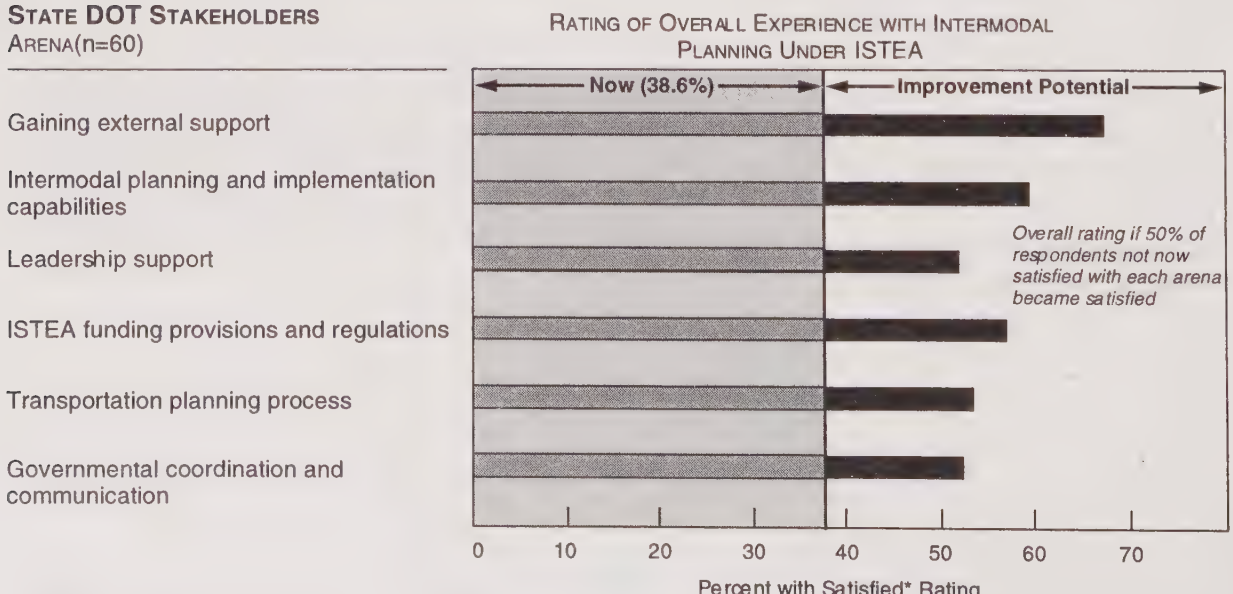
TRANSIT AGENCY STAKEHOLDERS
ARENA (n=160)



MPO STAKEHOLDERS
ARENA (n=181)



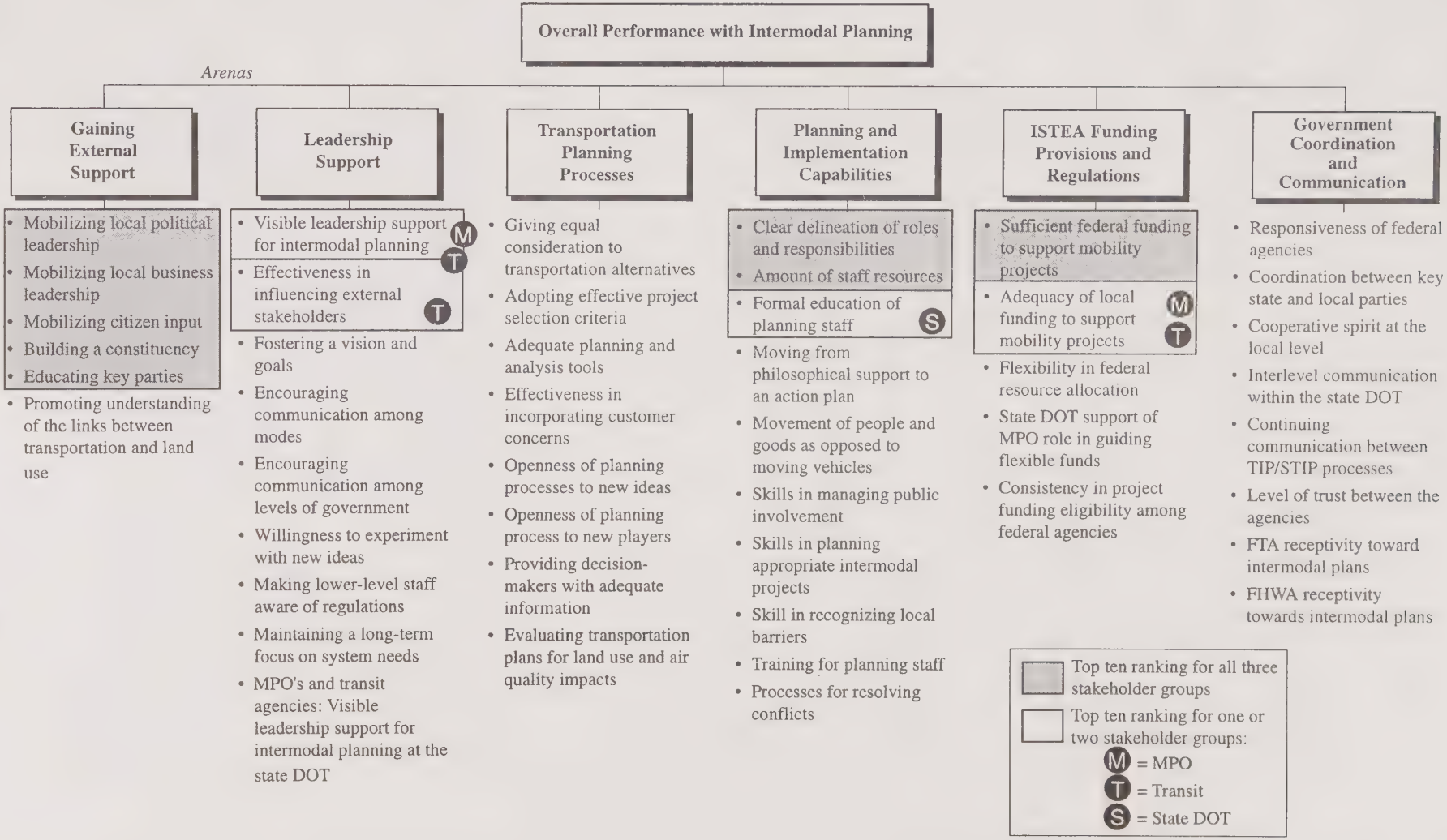
STATE DOT STAKEHOLDERS
ARENA(n=60)



* Satisfied defined as rating of "5" to "7" on a scale of "1" (Needs Major Improvement) to "7" (Excellent)

FIGURE 4-2

TOP TEN INTERMODAL PLANNING FACTORS FOR IMPROVING INTERMODAL PLANNING


Overall Performance with Intermodal Planning
Arenas
Gaining External Support
• Mobilizing local political leadership
• Mobilizing local business leadership
• Mobilizing citizen input
• Building a constituency
• Educating key parties
• Promoting understanding of the links between transportation and land use
Leadership Support
• Visible leadership support for intermodal planning (M, T)
• Effectiveness in influencing external stakeholders (T)
• Fostering a vision and goals
• Encouraging communication among modes
• Encouraging communication among levels of government
• Willingness to experiment with new ideas
• Making lower-level staff aware of regulations
• Maintaining a long-term focus on system needs
• MPO's and transit agencies: Visible leadership support for intermodal planning at the state DOT
Transportation Planning Processes
• Giving equal consideration to transportation alternatives
• Adopting effective project selection criteria
• Adequate planning and analysis tools
• Effectiveness in incorporating customer concerns
• Openness of planning processes to new ideas
• Openness of planning process to new players
• Providing decision-makers with adequate information
• Evaluating transportation plans for land use and air quality impacts
Planning and Implementation Capabilities
• Clear delineation of roles and responsibilities
• Amount of staff resources
• Formal education of planning staff (S)
• Moving from philosophical support to an action plan
• Movement of people and goods as opposed to moving vehicles
• Skills in managing public involvement
• Skills in planning appropriate intermodal projects
• Skill in recognizing local barriers
• Training for planning staff
• Processes for resolving conflicts
ISTEA Funding Provisions and Regulations
• Sufficient federal funding to support mobility projects
• Adequacy of local funding to support mobility projects (M, T)
• Flexibility in federal resource allocation
• State DOT support of MPO role in guiding flexible funds
• Consistency in project funding eligibility among federal agencies
Government Coordination and Communication
• Responsiveness of federal agencies
• Coordination between key state and local parties
• Cooperative spirit at the local level
• Interlevel communication within the state DOT
• Continuing communication between TIP/STIP processes
• Level of trust between the agencies
• FTA receptivity toward intermodal plans
• FHWA receptivity towards intermodal plans
Top ten ranking for all three stakeholder groups
Top ten ranking for one or two stakeholder groups:
M = MPO
T = Transit
S = State DOT

FINDING #1: Gaining external support for intermodalism has the greatest potential for improving the intermodal planning process.

Gaining external support for intermodalism is the most critical prerequisite to sound intermodal planning and policies. Respondents in the national survey ranked the arena *Gaining External Support for Intermodalism* as having the greatest potential for improvement, and they pointed to five key intermodal factors within this arenas as having the most potential for improving external support for intermodalism: (1) Building a constituency; (2) Mobilizing business leadership; (3) Inviting citizen input; (4) Educating key parties; and (5) Mobilizing political leadership. Each of these intermodal planning factors was among the top priority factors, of all 46 intermodal planning factors evaluated. The sixth intermodal planning factor in this arena, "Promoting understanding of transportation/land use links," ranked 11th overall and is not highlighted as a top priority for gaining external support for intermodalism.

For the *Gaining External Support* arena, survey respondents were asked to rate their agencies' effectiveness in generating awareness of the benefits of intermodal planning and mobilizing external support for intermodal objectives for six intermodal planning factors. They were then asked to "rate the overall effectiveness of efforts to mobilize key political officials and other external stakeholders in support of intermodalism." The survey results show that gaining external support for intermodalism has high priority potential for improvement among all stakeholder groups. The top part of Figure 4-3 illustrates the high leverage potential of transit stakeholders for intermodal planning factors in this arena. Only 23.7% of the transit agency respondents were satisfied with their agency's overall efforts to mobilize external stakeholders in support of intermodalism. If 50% of the respondents that were not satisfied with the intermodal planning factors "Building a constituency for the intermodal planning concept" and "Educating key parties about the intermodal planning concept" became satisfied, then the overall satisfaction rating of the *Gaining External Support* arena would improve by 32 percentage points.

In order to provide contrast to the high potential for improvement for the *Gaining External Support* arena, the bottom of Figure 4-3 shows relatively lower potential for improvement for many of the intermodal planning factors in the *Governmental Coordination and Communication* arena. For example, if 50% of the transit respondents who were not satisfied with "FTA receptivity towards facilitating intermodal plans" became satisfied, it would only improve the overall rating of the *Governmental Coordination and Communication* arena by 8 percentage points.

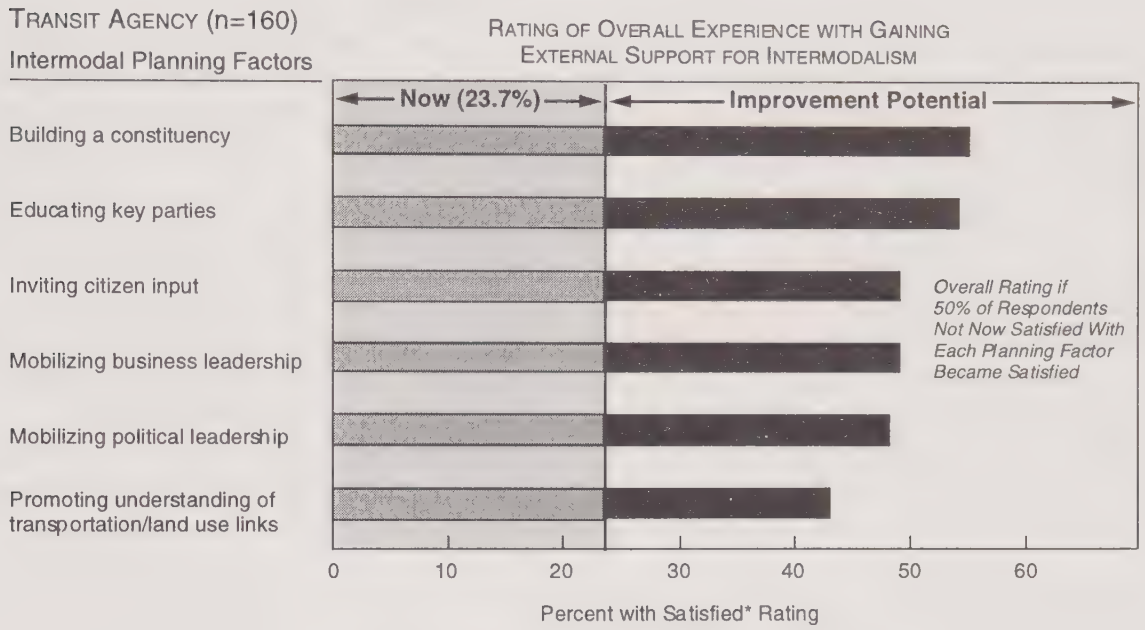
Building a Constituency

Respondents to the national survey believe that building a constituency for the intermodal concept will yield the most results in improving the intermodal planning process. It is a primary driving force for achieving intermodal planning objectives. The challenge is to amass external support that does not favor one mode or another, but motivates citizens, business, and elected officials to collectively determine how to most effectively move people and goods.

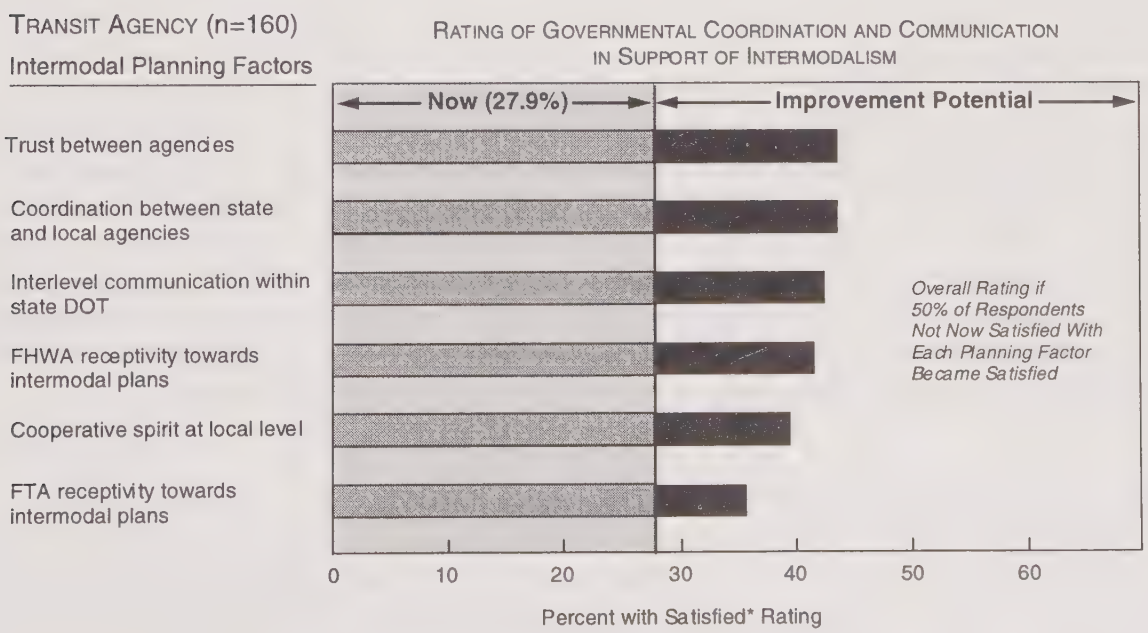
FIGURE 4-3

HIGH IMPROVEMENT POTENTIAL FOR GAINING EXTERNAL SUPPORT INTERMODAL PLANNING FACTORS (TRANSIT AGENCY STAKEHOLDERS)

GAINING EXTERNAL SUPPORT = HIGH IMPROVEMENT POTENTIAL



GOVERNMENTAL COORDINATION AND COMMUNICATION = LOW IMPROVEMENT POTENTIAL



* Satisfied defined as rating of "5" to "7" on a scale of "1" (Needs Major Improvement) to "7" (Excellent)

Building a constituency has the greatest potential for improvement from the perspective of the state DOTs and is second to sufficient federal funding from the perspective of transit agency respondents. From the perspective of all stakeholders surveyed, this intermodal planning factor has the greatest opportunity for improvement of all 46 intermodal planning factors evaluated.

Educating Key Parties

Stakeholders felt strongly that educating key parties about the intermodal planning concept was an important factor in improving the intermodal planning process. The potential for improvement from the state and MPO perspective is relatively high, but substantially below the transit agency perspective. Improving the education of citizens and elected officials about intermodal planning was a major theme of the open-ended responses to the national survey and interviews across several different arenas.

A northeastern state DOT representative summarized the sentiments of many respondents, "Intermodalism is still not well understood." As described by a general manager of a large transit system in the south, his agency's history has been to operate as an independent operating entity. The ISTEA planning process requires a new mind-set, which they are addressing in a 2020 visioning process led by the local MPO staff. However, intermodal thinking has been hindered by the modal preferences of elected officials. Building a constituency for intermodal planning and decision making through an ongoing education process to gain external constituency support is a major priority of this agency and many others.

Inviting Citizen Input

Inviting citizen input on intermodal planning options is also a priority factor for improving intermodal planning and decision making. A high-ranking official at a midwestern DOT explained that ISTEA had prompted them to include, for the first time, a citizen participation process in their long-range planning efforts. They convened six focus groups of their customers with representatives from freight, transit, and farming interests as well as environmentalists and others. The involvement of citizenry, they felt, provided important input during their long-range planning process. The Secretary of Transportation at a western DOT explained the challenge: "Citizens... need a demonstration of how (intermodalism) can benefit everyone."

An example of visible state leadership in citizen input was the development of the long-range intermodal transportation plan in Wisconsin, called Translinks 21. During the planning process, the state DOT and their regional partners talked to more than 10,000 customers who "shared their needs priorities and helped WisDOT shape the best plan possible."(16)

Mobilizing Business Leadership

Mobilizing local business leadership behind intermodal planning is a significant improvement opportunity identified by all stakeholder groups. A high-level Alaskan stakeholder, where intermodalism is a way of life, described the importance of the private

sector to intermodalism: "What really drives modal decision making is the private sector. Market-based dynamics drive investment decisions... Market factors rather than government leadership are the real driving forces behind modal choices."

"Mobilizing local business leadership" was the only intermodal planning factor in the *Gaining External Support* arena that the MPO stakeholders assigned greater priority than the state DOT and transit stakeholders. Addressing this issue is high on the agenda for many of the MPO stakeholders surveyed and interviewed.

Most of the identified opportunities for improvement in involving the business community in intermodal planning were goods movement. The Secretary of Transportation of a large western state felt that one of most important impacts of ISTEA was to include goods movement as a key element in the state's long-range planning efforts. This state is struggling to include the private sector and other stakeholders, for example, in freight railroad questions. Policy issues, such as whether "highway dollars" should be used to give a private company a potential competitive advantage, are important. He cited a corridor in the San Francisco Bay Area where a $1 billion investment in freight railroads could significantly relieve congestion along a 22-mile-long corridor. The importance of including private sector trucking and rail interests in the transportation planning process was a major finding of the Regional Roundtable Report.(17)

The Intermodalism Conference recently held in New Orleans provided a forum for increased national interaction of key stakeholders. The national survey identified a significant opportunity for increased interaction with business interests at the regional level.

Transit agencies attribute significant importance to mobilizing private sector interests to encourage intermodalism. Comments from transit agencies included involvement of employers in transit service development strategies.

Mobilizing Political Leadership

Mobilizing political leadership behind intermodal policies and planning was identified as an important improvement potential by all stakeholder groups. The Secretary of Transportation at a western state DOT pointed out that "key political officials aren't convinced that intermodalism is to their benefit. They are focused more on the short-term improvements they can gain for their constituents." State DOT respondents assigned more importance to this intermodal planning factor than did transit and MPO stakeholders, rating it third overall behind building a constituency and inviting citizen input. A midwestern DOT summarized one of the key challenges of intermodal planning: "the benefits of intermodal planning and decision-making must continually be discussed with local decision-makers."

Stakeholder Suggestions for Gaining External Support

Survey respondents provided several suggestions for gaining external support for intermodal planning and decision making. Table 4-1 indicates that providing opportunities to inform and educate the general public, elected officials, and commissioners on intermodal planning had the most responses. A midwestern state DOT official characterized the need

TABLE 4-1
GAINING EXTERNAL SUPPORT FOR INTERMODALISM
STAKEHOLDER SUGGESTIONS

What suggestions do you have for improving effectiveness in mobilizing support for intermodal planning and decision making?

1. Provide opportunities to inform and educate the general public, elected officials, and commissioners on intermodal planning. Provide concrete examples of benefits. (40 mentions)

   - The key is to involve all the major intermodal players (e.g. railroads, ports, etc.) in the planning process. (Southern MPO)
   - MPOs should allocate more funding to public education and awareness to build support for intermodalism. (Southeastern MPO)
   - Transit agency presentations to local jurisdictions on the importance of transit are significant in promoting intermodalism. (Midwestern medium-sized transit agency)
   - The benefits of intermodal planning and decision-making must continually be discussed with local decision-makers. (Midwestern state DOT).
   - Our development of 3 projects using CMAQ funds has been effective tool to begin a dialogue, as communities become engaged around a specific project. (Small northeastern transit agency)

2. Obtain participation and support from the private sector for intermodalism. (10 mentions)

   - A key element is to keep the employers involved in transit development for their employees.
   - Conduct business seminars about the viability of non-SOV modes and what it can mean to their business.

3. Provide additional funding to permit viable, serious consideration of intermodalism as a real option. (8 mentions)

   - Focus should be on a coalition of interests that work for the common goal of more dollars for transportation, including intermodal projects and cooperative intermodal planning. (Large eastern transit agency)

4. Have a clear leader for the advocacy of intermodalism. (5 mentions)

   - Our state agency needs to take the lead in making intermodal opportunities available. (Large western transit agency)

   - State DOT will have to be re-educated to be in a position to provide leadership before gains can be made towards intermodalism. (Southern MPO)

for continuing education: "The benefits of intermodal planning and decision-making must continually be discussed with local decision-makers."

Many transit and MPO stakeholders were frustrated with the insufficient available intermodal planning "success stories" to use as examples in educating and attracting external support. Significant work in this area remains. The high leverage attributed to education

confirms Secretary of Transportation Federico Peña's action plan, "to expand education and outreach efforts at the federal level."(18)

FINDING #2: Improved federal funding for mobility projects is a priority concern shared by all stakeholders, but it is not the highest priority for improving the overall intermodal planning process.

At the ten regional meetings sponsored by the U.S. DOT, full funding of ISTEA was clearly the highest priority expressed by state and local officials.(19) The national survey quantified the pervasiveness of strong stakeholder feelings about full funding of ISTEA. The survey analysis revealed that improved federal funding for mobility projects will have the greatest impact from the transit agency perspective, but, across all stakeholders, it is the third highest priority factor for improving the intermodal transportation planning process. Collectively, however, the stakeholders believe that building a constituency for the intermodal planning concept will have the greatest results.

Figure 4-1 shows that, overall, the *ISTEA Funding Provisions and Regulations* arena does not have the most improvement potential for improving the stakeholders' overall experience with intermodal planning under ISTEA. Both MPO and state DOT stakeholders assigned significantly lower improvement potential to the *ISTEA Funding Provisions* arena than the *Gaining External Support* arena. For transit agency stakeholders, there was little significant difference between the arenas.

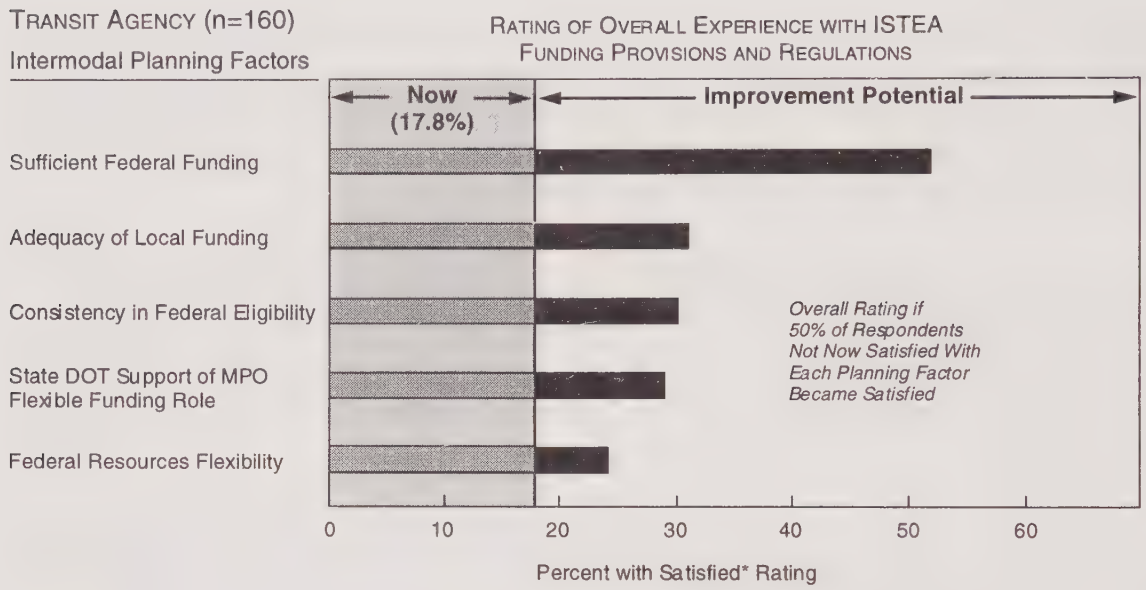
Figure 4-4 illustrates the relative improvement potential that both federal funding and local funding for mobility projects would have on stakeholders' overall experience with ISTEA funding provisions. Transit agency respondents felt there was a significant opportunity in federal funding resources but felt that the improvement potential for local funding was much lower, about 21 percentage points on the satisfaction rating scale. There is a sharp contrast in MPO respondent perspectives. MPOs felt there was significantly greater improvement in local funding for mobility projects, slightly more than improved federal funding for mobility projects.

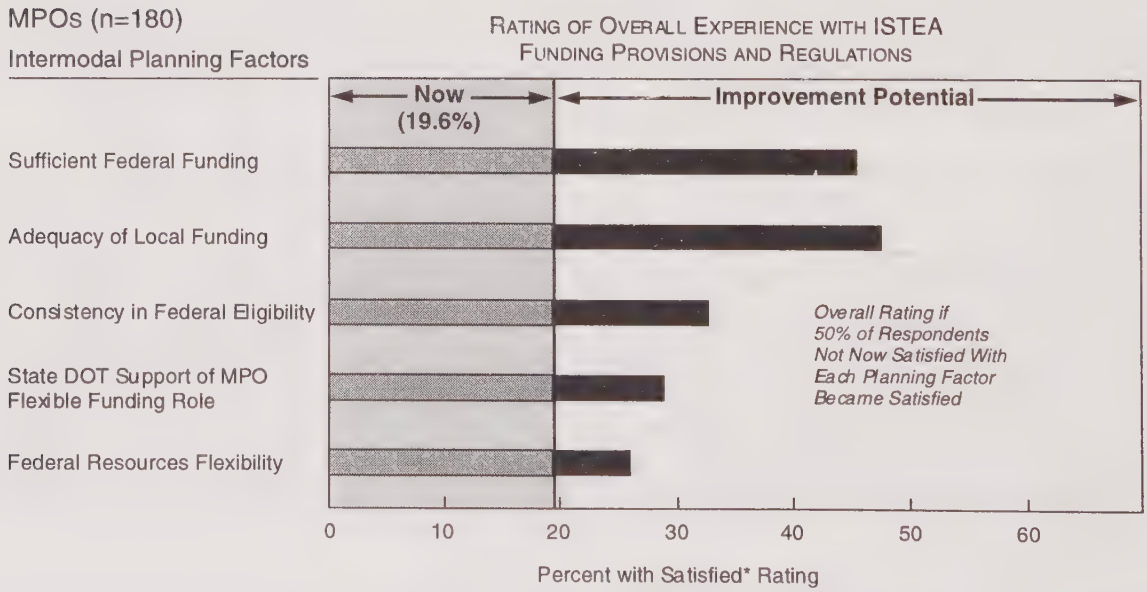
The inadequate funding is clearly a restraining force to many transportation stakeholders and it is a subject of much debate each year in Congress. A midwest medium-sized transit agency adeptly summarized the viewpoint of many, "...when resources are scarce, intermodalism takes a back seat to survival." A common refrain heard during both the stakeholder interviews and review of the open-ended survey responses was that lower-than-anticipated funding levels have hampered the ability of transit agencies to utilize flexible funds offered by ISTEA. When respondents were asked to name one change that would improve intermodal planning and decision making, efforts to increase funding level was mentioned 77 times (about 30% of the respondents) to this open-ended question. Table 4-2 is a summary of stakeholder suggestions for improving ISTEA funding and regulatory provisions.

FINDING #3: The importance of leadership was a pervasive theme and driving force towards achieving intermodal objectives; effective leadership provides the motivation

FIGURE 4-4

IMPROVEMENT POTENTIAL FOR ISTEA FUNDING PROVISIONS CONTRAST BETWEEN TRANSIT AGENCY AND MPO STAKEHOLDERS





* Satisfied defined as rating of "5" to "7" on a scale of "1" (Needs Major Improvement) to "7" (Excellent)

and energy to focus stakeholders away from barriers and towards achievement of defined objectives.

Many stakeholders who have implemented or are implementing intermodal projects conveyed that successful efforts are often situation-specific and feature the "key players" using their position and authority to achieve objectives. The intermodal rail station project underway in St. Louis; the joint Amtrak station, intra- and inter-city bus terminal and the people-mover stop in downtown Jacksonville; and the bus-rail interface at the Hartford train station are the products of intermodal leadership efforts.

Historically, much of the success that state DOTs have enjoyed in securing funding for highway-related purposes, implementing highway projects, and maintaining strong external support, results from strong leadership. It is not surprising, therefore, that in the "leadership support for intermodalism" arena shown in Figure 4-1 (on page 4-2), state DOT stakeholders exhibited very high satisfaction with leadership support and considered this arena to have relatively little potential for intermodal improvement.

In an example of leadership effectiveness, the Washington DOT has taken a very visible leadership role in aggressively implementing ISTEA provisions. In a state that already had an integrated approach to intermodal planning for a while, they were able to develop a public participation brochure and facilitate several changes in a relatively short period.(20) According to a high-ranking state official, the greatest impact to date has been the suballocation of STP funds to "38-RTPOs and 9-MPOs, even though most jurisdictions are less than 200,000 in population."

Transit agency stakeholders were the least satisfied with their leadership abilities to foster support for intermodal planning and decision making. Consequently, for transit agencies, leadership support exhibits one of the top opportunities for improvement among all arenas by transit agencies. The national survey found that among transit agency stakeholders, the five factors with the most potential for improving the leadership arena were as follows:

1. Visible leadership support for intermodal planning and decision making,
2. Effectiveness in influencing external stakeholders,
3. Fostering a vision and goals that encompass intermodalism,
4. Willingness to experiment with new ideas and ways of thinking, and
5. Maintaining a long-term focus on transportation system needs.

Overall, only 32.1% of transit agency stakeholders were satisfied with the *Leadership Support* arena. Anyone of the above intermodal planning factors would make a significant difference in improving leadership support. For example, if 50% of the respondents not now satisfied with the factor "Visible leadership support for intermodal planning" became satisfied, it would improve the rating of overall experience with leadership support for intermodal planning from 32.1% to 57.5%.

TABLE 4-2

ISTEA FUNDING AND REGULATIONS
STAKEHOLDER SUGGESTIONS

What suggestions do you have for improving effectiveness in mobilizing support for intermodal planning and decision making?

1. Full funding to ISTEA authorization levels. (27 mentions)
   - Full funding of ISTEA is a necessity if intermodalism is to become a reality. (Mid-America state DOT)
   - Fund ISTEA at full authorization levels. (Small West Coast transit agency)

2. Improve flexible funding provisions. (23 mentions)
   - More flexibility is needed to apply federal dollars towards transit operations (Large west coast transit agency)
   - Capital flexibility for transit is just one piece. Lack of operating money is key. (Western MPO)
   - ISTEA only allows funding shifts between highway and transit. Aviation, navigation, and freight rail assistance is needed. (Southern SDOT)
   - Set up formula funding by mode—not just surface/air/water. (Southwest MPO)

3. Additional funds to clear backlog. (16 mentions)
   - Additional funds are needed to clear out the backlog of prior commitments. (Mid-America MPO)
   - There needs to be more funding for intermodal projects. (Mid-Atlantic MPO)

4. Streamline the approval and monitoring process. (16 mentions)
   - Mobility projects are still step-children. Their priority needs to be strengthened in the various federal programs. (Medium southeastern transit agency)
   - Reduce regulatory burden. (Large eastern transit agency)
   - Make processes less bureaucratic, especially for smaller projects... a $20,000 grant can take as much time as a $200,000 grant.

5. Improve consistency between FTA and FHWA policies. (11 mentions)
   - Minimize red tape and inconsistencies between FTA & FHWA. Minimize delay with plan review conducted by FHWA. (Eastern MPO)
   - The regs are not always clear as to what projects can be funded. (Large midwestern transit agency)

6. Permit block grant funding. (5 mentions)
   - All federal monies should come to state/MPO in block grant style. (Northeastern MPO)

Leadership does not necessarily need to emanate from a person—it can be provided by a goal, mission statement, or vision. For example, in a small urbanized area along the front range of Colorado, the MPO adopted a strategic goal of reducing single occupant vehicles by 10%. Local elected officials have been very supportive of alternative transportation approaches as a result of this specific goal.

FINDING #4: A clearer delineation of roles and responsibilities in the planning process, sufficient staff resources, and formal education in intermodal planning will yield significant results in improving the intermodal planning and implementation capabilities of transportation agencies.

In general, stakeholders are satisfied with their skills and abilities at intermodal planning, but feel that a clearer delineation of roles and responsibilities in the planning process, sufficient staff resources, and formal education in intermodal planning will result in the greatest dividends for improving their agency's capabilities in the planning process. This finding was consistent among all the three stakeholder groups. Figure 4-5 illustrates the difference in improvement potential for transit agency respondents. The figure compares the top three intermodal planning factors with the three factors that have the least potential in the *Planning and Implementation Capability* arena.

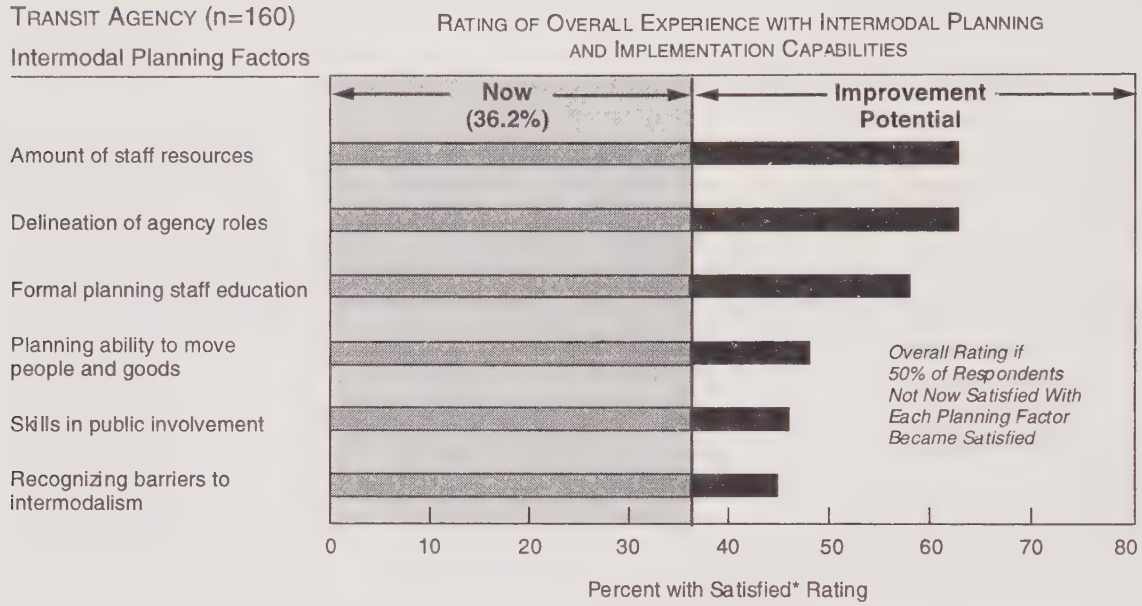
In Chapter 3, interjurisdictional issues such as conflicts about authority and responsibility and reluctance to form partnerships were summarized. The national survey confirmed that improving the delineation of roles and responsibilities is a priority for improvement of the intermodal planning process. Several stakeholder interviewees and survey respondents described the use of statewide MPO advisory groups that helped to clarify new roles and responsibilities. A specific example is the quarterly meetings of MPO executive directors in California. Intergovernmental advisory councils have helped to clarify implementation responsibilities in Los Angeles.

Improving the formal education of planning staff on intermodal planning opportunities is a high priority to state DOT and transit agency staffs, but is a lower priority for MPOs. For example, a midwestern state DOT Director of Planning told the research team that the planning division had no planning school graduates prior to ISTEA. They now have three trained planners on staff to handle freight-, bicycle-pedestrian-, and research-related functions. At the district level, they now have urban planners who work directly with MPOs in the state's two largest cities.

Not surprisingly, improving the number of personnel available to conduct intermodal planning would provide significant improvement to intermodal planning and implementation capabilities. Several stakeholder interviews revealed that existing personnel are "overloaded with ISTEA regulatory requirements." One western MPO Executive Director is planning to add a transportation planner to "deal with" the ISTEA management systems. Caltrans in California has added a Deputy Director position responsible for all non-highway modes, including transit, rail, and aeronautics. In general, however, most agencies are not adding staff but realigning responsibilities to handle intermodal duties. Typical of this change is Florida, which made changes to the Rail Office to become the Rail & Intermodal Office.

FIGURE 4-5

IMPROVEMENT POTENTIAL FOR INTERMODAL PLANNING AND IMPLEMENTATION CAPABILITIES (TRANSIT AGENCY STAKEHOLDERS)



* Satisfied defined as rating of "5" to "7" on a scale of "1" (Needs Major Improvement) to "7" (Excellent)

Duties were aligned to reflect an intermodal policy perspective and ensure that intermodal planning was given consideration throughout the organization for transportation improvements.

FINDING #5: Efforts to improve traditional interagency coordination and transportation planning processes offer the least opportunity for improving the intermodal planning and decision-making process.

Transit agencies, MPOs, and state DOTs attached significantly greater importance to external support in the acceptance and practice of intermodal planning and decision making than intra- and interagency coordination and communication at all levels of government. Of all six opportunity arenas, the *Governmental Coordination and Communication in Support of Intermodalism* arena had the least opportunity for improvement from the transit and MPO stakeholder perspective and second to the last for state DOT stakeholders. Respondents are relatively satisfied and feel there is little sensitivity to change in the responsiveness, communication, and receptivity towards intermodal planning among government agencies. Stakeholders are cognizant, however, of the need to improve the level of trust between agencies involved with transportation planning. This intermodal planning factor was ranked as one of the top three factors in this arena for all stakeholder groups and ranked first by transit agencies.

The *Transportation Planning Processes* arena includes the processes necessary to implement intermodal policies under ISTEA, such as adopting project selection criteria, planning and analysis tools, openness of process to new ideas and players, and evaluating transportation plans for land use and air quality impacts. All stakeholders were relatively satisfied with their current transportation planning process. In fact, this arena had the highest mean satisfaction rating of all six arenas. Because this arena has a relatively high satisfaction and relatively little sensitivity to change, it is considered as having a low priority for improvement to intermodal practices. Nevertheless, "better tools to objectively assess costs, impacts, and benefits of various projects" and programs to "more equitably compare projects which are intermodal in composition" were stated needs to improve intermodal planning and decision making.

BEST EXAMPLES OF INTERMODAL PLANNING

Survey respondents were asked to provide examples of successful intermodal planning. As shown in Table 4-3, development of intermodal transfer facilities and long-range plans were the top response categories.

TABLE 4-3

BEST EXAMPLES OF INTERMODAL PLANNING

Describe the best example of intermodal planning in your area. What in your opinion are the reasons for its success?

1. Development of an intermodal transfer facility. (83 mentions)
   - Development of an intermodal transit center in the CBD. Project was planned and programmed 3 years in advance, submitted for public input early in the process, and local funding, including business participation, was secured. (Small southwestern DOT)
   - Intermodal Amtrak station had strong local and Congressional support. (Southern MPO)
2. Development of a long-range regional transportation plan. (28 mentions)
   - Long-range, statewide, intermodal transportation plan was successful because of early and continued involvement of the private sector and other public agencies. (Southern state DOT)
   - Development of a Statewide Intermodal Transportation Plan. This resulted in coordination and cooperation among modes of transportation that normally do not deal with each other. (Mid-America state DOT)
3. Provision of intermodal services. (23 mentions)
   - Electric shuttles in the downtown area—these shuttles facilitate rail-transit-pedestrian traffic and allow motorists to park in remote lots and shuttle to business/tourist areas. (Medium-sized West Coast transit agency)
   - Commuter connection bus service to and from railroad stations. (Large northeastern transit agency)
4. Planning a specific transportation corridor. (21 mentions)
   - Development of 100-mile high-occupancy-vehicle system led by transit authority with significant interface and coordination with state highway dept. (Large southwest transit agency)
   - MIS Study in an urban freeway corridor. (Southwest DOT)
5. TIP Process. (16 mentions)
   - During TIP process, we asked the people what they wanted through a visual preference survey and designed our evaluation criteria to reflect those preferences. (Southern MPO)

Source: National Survey

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17. U.S. Department of Transportation, *Regional Roundtable Report and Action Plan, A Progress Report from Our Customers*. Washington, D.C. (March 1994) p. 25.

18. U.S. Department of Transportation, *Regional Roundtable Report and Action Plan, A Progress Report from Our Customers*. Washington, D.C. (March 1994) p. 9.

19. U.S. Department of Transportation, *Regional Roundtable Report and Action Plan, A Progress Report from Our Customers*. Washington, D.C. (March 1994) p. 5.

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5. ATTRIBUTES THAT ENHANCE LOCAL ISTEA IMPLEMENTATION

It is extremely important that a local jurisdiction tailor intermodal planning components to suit its individual needs. The details cannot be prescribed; planners must adapt to changing circumstances at the federal, state, regional, and local levels. The next transportation reauthorization legislation (called next-TEA by some) will influence the future decision-making context, which, in turn, will affect the local implementation process. Environmental conditions, such as land use patterns, air quality, and historical transportation trends, must all be taken into consideration in revising the local planning process.

During the research, successful local intermodal planning practices appeared to share the following five key attributes or planning components:

- Establishing a common vision,
- Generating community support,
- Pursuing funds to implement priority projects,
- Developing enabling organization(s) to meet local needs, and
- Creating system performance measures that clearly relate to market demands.

The three implementation forums conducted in Albuquerque, New Mexico; Austin, Texas; and Queens, New York; as well as the national survey and literature search, pointed to many of the attributes that can enhance local intermodal planning. Table 5-1 summarizes the objectives of each implementation forum, its focus, barriers to implementation, action plan initiatives, a progress report on implementation efforts, and a review of the driving forces of change. Detailed descriptions of the implementation forums are included as Appendix F.

In Chapter 4, the national survey findings pointed to leadership, improved education about ISTEA, adequate funding, and building community support as the primary themes for improving the intermodal planning process. This chapter synthesizes the results of local efforts to improve local ISTEA implementation. The lessons learned from the implementation forums are supplemented with information garnered from the literature review, the stakeholder interviews, and the national survey.

A COMMON VISION

Prior to the Austin-San Antonio implementation forum, an elected official described the need for a common vision, "If stakeholders aren't involved in pulling together toward a common goal, transportation planning will continue to be splintered, fragmented and only partially and occasionally successful."

A basic premise of intermodal planning is choice, where transportation options are provided by competing modes, independently or in combination. Choice also means that decision makers need to consider alternative systems to address transportation needs before investing in infrastructure. To be successful, the local intermodal planning process needs to provide for a broad array of modal options in its visioning process.

TABLE 5-1

SUMMARY OF IMPLEMENTATION FORUMS

	Austin-San Antonio Corridor	Queens, New York	Albuquerque, New Mexico
Forum Objective	Develop intermodal planning process model for Austin-San Antonio corridor.	Develop action plan to move the Sunnyside Yard intermodal project toward active planning and decision-making.	Develop initiatives that improve intermodalism in the Albuquerque metropolitan area.
Focus	• Re-use or joint use of existing freight corridor, including commuter rail. • Potential for relocating freight traffic to new intermodal corridor: SH 130.	• Transportation potential of the Sunnyside Yard. • Potential for integrating transportation and land use planning. • Overcoming jurisdictional barriers.	• Opportunity exists for managing future development. • What are the key elements of an intermodal plan?
Key Facts	• 80-mile corridor. • 5% annual pop. growth in Austin. • NAFTA has increased rail traffic 6-8% annually. • Union Pacific single track along corridor nearing capacity.	• Sunnyside Yard located in Long Island City, a growing commercial area, in Queens Borough of New York City. • Sunnyside Yard is 150 acres of below-grade railroad tracks and vacant land--used by all of the New York region's commuter railroads except Metro-North. • Intermodal facility to relieve overcrowding at Manhattan's Penn Station first proposed in 1929 Regional Plan.	• Significant high-tech economic development. • Relatively low existing congestion except the Rio Grande bridge crossings and intersection of two interstate highways. • Non-attainment area for carbon monoxide and "brown clouds" during winter months.
Historical Intermodal Planning Barriers	• Insufficient interjurisdictional communication. • Union Pacific not part of planning process. • Insufficient corridor planning leadership. • Corridor issues beyond traditional planning boundaries.	• Lack of definition and consensus regarding components of Sunnyside Yard project. • Until recently, a lack of leadership within Queens and Long Island City to advance the project. • No active external stakeholder support identified involving New York City officials, state officials, and particularly federal officials. • The multiplicity of governmental agencies involved and the lack of clear roles or responsibilities.	• Until recently, regional leadership has not promoted intermodal thinking. • Very limited linkage between land use and transportation decisions. • Highway emphasis of traditional state DOT.

TABLE 5-1
(Continued)

	Austin-San Antonio Corridor	Queens, New York	Albuquerque, New Mexico
Action Plan Initiatives	• Established vision, government structures, marketing, data collection, and funding work groups. • New Austin-San Antonio Regional Transportation Task Force to coordinate ongoing effort.	• The scoping of the Sunnyside Yard project. • Stakeholder action plan intended to identify potential stakeholders and to actively solicit project support.	• Develop and implement an intermodal plan to reduce commute trips by 10% to City and County government employees.
Related Efforts	• MIS studies by TxDOT in the SH 130 corridor. • MIS studies by the Austin San Antonio MPOs in the IH 35 corridor.	• MTA Long Island City. • The evaluation of a competing intermodal facility, the East Side terminal in Manhattan. • Access to the Region's Core Study.	• City of Albuquerque Transportation Evaluation Study to develop land use and transportation vision. • City of Albuquerque light rail feasibility study. • MPO strategic plan to enhance intermodal planning capabilities. • Regional Transit Authority study by County of Bernalillo.
90-Day Progress	• Plans for commuter rail demonstration tour. • Commuter rail feasibility study outline. • Plans for origin/destination study.	• Consultant study has developed list of feasible alternative transportation strategies, both operational and capital, for the Sunnyside Yard. • Community meeting held to review alternatives.	• Detailed schedule for Civic Center commute alternatives implementation. • Working papers on trip reduction options. • Development of commuter survey.
Driving Forces of Change	• Union Pacific's long-range freight needs. • Collaborative efforts of new task force. • TxDOT staff leadership.	• Queens Borough President has pushed for comprehensive review of alternatives in a timely manner. • High costs of East Side terminal.	• Desire to maintain high quality of life. • Mayor has embarked on several intermodal planning initiatives; City staff have played leadership roles. • Strong interest in coordination of transportation/land use planning.

The research found that the primary means for evaluating transportation options occurs through the major investment study (MIS) process. Major investment studies are required when an agency identifies the potential need for both a major investment and federal funds. The primary purpose is to provide information about the likely impacts and consequences of alternative transportation investment strategies and to assist the MPO or state DOT in its decision-making process. Mr. James Van Loben Sels, the Director of Transportation at Caltrans in California, pointed to major investment studies as a driving force "pushing us towards a intermodal decision-making process." During the interview, the research team discussed an example of an MIS process in the Altamont Pass area that bridges the San Francisco Bay Area and the Central Valley of California. The MIS process is the key forum for discussing and analyzing an array of modal options in the corridor. The MIS process is also considering future land use scenarios that are important to the intermodal planning process.

In addition to different modal options, local ISTEA implementation processes need to include land use and air quality considerations. Such a comprehensive visioning process is underway in the Albuquerque region. The City of Albuquerque recently retained a consultant to conduct a major land use and transportation evaluation study to address the long-term mobility and transportation needs of the City. The City initiated the study for to achieve the following objectives:

- Clearly define its sense of direction,
- Develop an integrated set of land use/transportation goals and policies, and
- Develop a strategic plan of action to implement a "place image" that will, it is to be hoped, receive consensus during the plan's development.

As one of the first tasks, the consultant team developed a "place image" video highlighting how past land use and transportation decisions have shaped Albuquerque and what will happen if current trends continue.

The place image video was recently utilized to frame informed public involvement at a 1½-day town hall workshop co-sponsored by the City and Shared Vision, Inc., a non-profit community organization devoted to comprehensive planning. Panel discussions included presentations on land use and transportation connections, how different transportation alternatives have been developed, and how these alternatives have worked in other communities around the nation. During ½-day break-out sessions, citizens and community leaders were asked what they like about the existing physical form and what changes are anticipated. They were also asked what they like about other communities and what is suitable for implementation in Albuquerque.

The Wisconsin DOT (WisDOT) is taking proactive steps to incorporate local land use objectives into state transportation planning, and state transportation concerns into local land use planning. Recognizing that local resources are often quite constrained when dealing with the complexities of land use-transportation issues, WisDOT is planning to create a new state

grant program to help local governments develop transportation corridor management plans to deal effectively with actual or anticipated growth in their transportation corridors.(21)

Establishing broad goals helps to guide the local intermodal planning process. In the Albuquerque region, the Regional Transportation Plan has a broad goal of a 10% reduction in single occupant commuters by 2015 over what would be expected from current travel behavior patterns. Such goals can provide a focus for specific programs and policies united by a common vision.

The visioning process should provide significant public involvement and define issues clearly in the language of the public. The Capital District Transportation Committee (CDTC) in Albany, New York, reassessed its long-range transportation plan to incorporate the added flexibility and planning accountability features of ISTEA. CDTC devised New Visions, a long-range regional plan that looks forward 25 years. According to the senior planner at the agency, "The New Visions effort seeks to step back from incremental planning and asks more fundamental questions about the type of Capital District its residents wish to create, the role of transportation policy in shaping the future, and creative actions that can be taken." To represent its many stakeholders, CDTC established nine task forces ranging from Arterial Corridor Management to Transit Futures with more than 100 committed business leaders, environmental advocates, freight operators and users, state and local government leaders, interested residents, and others. Each task force is expected to produce a clear statement of vision, explicit presentation of principles, and a set of actions for consideration in the New Visions plan.(22)

COMMUNITY SUPPORT

According to the research findings, gaining external support for intermodalism is a top priority for improving the intermodal planning process. Following the advice of a midwestern DOT representative that "the benefits of intermodal planning and decision-making must continually be discussed with local decision-makers" should help localities identify sources of support for the intermodal planning process. Several transit agencies reported that formal presentations to local jurisdictions were effective in ensuring that transit was considered in the transportation planning process.

Mobilizing local business leadership behind intermodal planning is another important source of support. Improving communication with the business community was high on the agenda for many MPO and state DOT stakeholders interviewed. However, most of the opportunities they identified for involving the business community in intermodal planning included only goods movement.

The national survey also identified opportunities for increased interaction with business interests at the regional level. Transit agencies believe there is significant importance and potential in mobilizing private sector interests to encourage intermodalism. Transit agencies said that employers should be involved in transit development.

Citizen and business interests can rally behind an intermodal plan if the planning process achieves a broad base of ownership. Members of the Santa Clara Valley Manufacturing Group were the leaders behind two sales tax increases in 1984 and 1992 that

funded an intermodal plan that has had a broad sense of ownership and support from citizens, elected officials, environmental groups and the business community of Santa Clara County, California.

Passed in 1992 with a 54% approval, Measure A included a broad multimodal package of transportation improvements such as a light rail network with connections to BART, a doubling of commuter rail service between San Jose and San Francisco, better access to 50,000 disabled residents, several major highway interchange improvements, widening of key highway links, and signal synchronization on eight County expressways. A recent state Supreme Court invalidated the sales tax increase, saying it was subject to the two-thirds vote requirement of Proposition 13. Although frustrated, the broad coalition that supported Measure A is redefining a course of action to at least partially achieve its intermodal planning vision.

Establishing ongoing mobilization forums is critical to sustaining community support for intermodalism. An important outcome of the Austin-San Antonio implementation forum was the formation of the Austin-San Antonio Regional Transportation Task Force. The task force includes the transit agencies and MPOs from both regions as well as Union Pacific, TxDOT (Texas Department of Transportation), the local community, Texas Transportation Institute, FHWA, and the Greater Austin-San Antonio Corridor Council charged with improving economic development along the corridor. The task force will serve as a forum for future intermodal planning efforts.

The Bannock Planning Organization of the Southeast Idaho Council of Governments (BPO) includes one-third of the Fort Hall Indian Reservation land and is a non-attainment area for PM-10. Because many transportation planning decisions will affect the reservation land, BPO personnel have taken steps to incorporate the region's Shoshone Bannock Indian tribes into the long-range transportation planning process. In order to better understand the Shoshone Bannock tribes' regional land use, transportation, and development objectives, BPO established the Program for Community Problem Solving as an ongoing forum for cross-cultural education and cooperative skills development. Efforts to date have included a cross-cultural workshop, a training session on collaborative planning, and a preliminary negotiation session. The collaborative planning efforts were sponsored by an FTA grant to the National Association of Regional Councils.(23)

The intermodal planning process often includes major long-range capital investments that are 10 to 20 years away from actual project development. Ownership in planning processes is often more effectively achieved when the process includes short-term achievable projects which engender a sense of accomplishment among the participants. In the Austin-San Antonio corridor, an important first achievement was the sponsorship of a demonstration commuter rail train hosted by Union Pacific. In Albuquerque, the short-term focus on reducing commute trips to the Civic Center area by 10% is a means of demonstrating that transportation goals can be achieved with concerted effort.

FUNDS TO IMPLEMENT PRIORITY PROJECTS

Developing a funding package to implement priority projects is critical to local ISTEA implementation. The ability to develop a significant local funding base is becoming increasingly important. The Metropolitan Transit Authority of Harris County (METRO) is actively involved in both transit and streets and roads planning and implementation. In late 1978, METRO was created by Houston area voters. METRO began operations on January 1, 1979, with the charge to find solutions to "congestion problems." A 1% sales tax, which generates about $250 million per year in revenues, supports METRO operations and has provided significant leverage in attracting federal funding for capital improvement projects. The local sales tax has enabled Houston METRO to develop a network of 122 bus routes with a fleet of 1,413 buses.

In partnership with the TxDOT, METRO has also developed a network of 63.6 miles of high-occupancy-vehicle lanes that operate in the peak period direction on five of the area's extensive radial freeways. METRO's road building role is unique among the country's transit agencies. A 1988 vote to allocate 25% of the 1% sales tax to streets and roads was pivotal to the agency's mobility management initiatives; the vote added traffic management and infrastructure improvements to the agency's mission. METRO's substantial local funding base has enabled it to become a transit industry leader in intermodal planning efforts.(24)

Regions that proactively identify new sources of funding will be better prepared for the future. The Indian Nations Councils of Governments (INCOG) in northeastern Oklahoma has developed a long-range transportation plan that includes a proposal for a county fuel tax to fund a "dynamic public transit plan." (25) In the Albuquerque implementation forum, one of the priority intermodal planning issues identified was "how to address funding shortfalls." There was consensus among the participants that there is a need to develop new funding mechanisms with more of an emphasis on private-public partnerships.

The local ISTEA implementation process should use local considerations in establishing equitable and objective project selection criteria. Application of selection criteria is normally a critical step in how available funds will be utilized. The North Central Texas Council of Governments (NCTCG), the MPO of the Dallas-Ft. Worth regions, utilized the 15 factors contained in the ISTEA legislation as "building blocks for the development of multimodal evaluation criteria." (26) NCTCG added several regional goals to the factors and then submitted 21 criteria to its policy board and relevant committees. The MPO's final evaluation criteria for the allocation of STP and FTA Urbanized Area Formula funds reflect regional priorities such as current and future cost-effectiveness, air quality, energy conservation, and social mobility goals. Acknowledging ISTEA's requirements that transportation plans and improvement programs be fiscally constrained, the final criteria lend particular weight to a project's local cost participation.

ENABLING ORGANIZATIONS

Clear delineation of organizational roles and responsibilities will enhance the intermodal planning process. At the Queens, New York, implementation forum, an

important barrier to local intermodal planning was the extensive number of governmental agencies that need to be involved in the planning and consideration of the Sunnyside Yard project. Many of the responsibilities of these agencies were vaguely defined. Participants at the implementation forum observed that understanding and navigating through this myriad of government agencies was partly responsible for the poor progress that this project has made over the years. The research team concluded that the resolution of such issues will be critical to successful implementation of the Sunnyside Yard project.

The development of a continuous partnership structure can go a long way towards advancing intermodal transportation. In the Austin-San Antonio corridor, the action plan includes efforts to find a formal mechanism to establish a long-term structure that incorporates intergovernmental decision making. The use of joint-powers authorities is often utilized to plan, implement, and operate interjurisdictional projects.

The enabling organization should include diverse interests. The Minnesota DOT introduced the concept of Area Transportation Partnerships as a means of involving diverse interests in transportation investment decisions at the regional or multi-county level. The partnership consists of local elected officials, local transportation planning representatives, state transportation officials, and concerned citizens. The typical Area Transportation Partnership represents a MnDOT District, one to three Regional Development Organizations, an MPO, and a special interest. The partnership includes local officials responsible for transit operations in urbanized, rural, and small urban areas. According to state DOT officials, the organizational structure of the Area Transportation Partnership has provided a planning "process (that) assures all eligible interest groups (have) access to planning and decision-making and fair evaluation of eligible proposals".(27) MnDOT utilized conferences, advisory committees, and newsletters in its public involvement process to include diverse interests.(28)

Clear delineation of roles and responsibilities, an organizational structure that enhances decision making, and the inclusion of diverse interest will enable organizations to effectively implement an intermodal planning process.

PERFORMANCE MEASUREMENT

Several observers of the local ISTEA implementation process have concluded that one of the key characteristics of future intermodal transportation planning will be its response to market forces.(29) Local ISTEA implementation processes that clearly relate system performance measures to market demands will be responsive to changing local needs.

Traditional measures of performance (such as a level of services for highways or passengers per vehicle service hour for transit) only measure performance of that particular facility or service. Intermodal planning processes call for a more creative set of performance measures that incorporate user needs and market demands. A summary of research on mobility indexes is highlighted on the following page.

Summary of Research on Mobility Indexes

Recent research by Mazur and Meyer has summarized the attempt to use some form of mobility index in transportation planning:

> "A mobility index would provide a means of assessing the ability of people or goods to move throughout a corridor or area in a quick, safe, efficient and reliable manner. Some areas have experimented with a mobility index of one form or another such as areawide level-of-service, the congestion severity index (CSI), the roadway congestion index (RCI), the transportation adequacy measure, and personal mobility index (Ewing, 1992). Other research in the area has resulted in development of countywide mobility index for assessing the economic development impacts of transportation (Eck, 1978). Additionally, Lomax has suggested use of a "speed of person-volume" and a "person-movement index" to evaluate the person-throughput in a corridor (Lomax 1990)." (30)

One example of a performance-based planning process that relates transportation system performance to market demands for development is in Montgomery County, Maryland, a suburb of Washington D.C. The County adopted a 1973 Public Facilities Ordinance to promote orderly growth. Before a development can be approved, the ordinance provides for a development review process that includes two different transportation performance tests. These two tests are as follows:

1. A review of predicted traffic volumes to a level of service for the entire area and

2. A local review that evaluates the development impact on local intersections.

Service levels incorporate transit service availability such that greater traffic congestion is allowed where greater transit availability provides an alternative mode of travel.

The County is divided into 22 policy areas and each policy area has one of six levels of service grouping (Group 1--lowest transit availability to Group VI--subway and expanded bus service). An absolute ceiling of development units is set for those policy areas where existing and approved development exceed the level of development set by the County based on the public infrastructure to support this level.

Performance measurement and analysis efforts must also respond to stakeholder concerns. The public participation requirements of ISTEA argue for a performance monitoring system that provides regular feedback to a variety of interested parties. Creative uses of the media and Internet could provide useful information in a variety of accessible formats.

Table 5-2 includes a summary of attributes that enhance intermodal planning. Chapter 6 presents ten specific strategies that enhance the context in which local intermodal planning and policies can occur.

TABLE 5-2

ATTRIBUTES THAT ENHANCE INTERMODAL PLANNING

Visioning	• Provides for a broad array of modal options. • Establishes broad goals. • Promotes early up-front and continuing public outreach. • Includes land use and air quality considerations. • Defines issues clearly in the language of the public.
Support Community	• Identifies potential sources of support. • Establishes ongoing mobilization forums. • Includes short-term achievable projects. • Achieves broad base of ownership.
Performance Measurement	• Clearly relates system performance measures to market demands. • Responds to stakeholder concerns.
Enabling Organization Development	• Resolves issues of authority and responsibility. • Establishes partnership structure. • Includes diverse interests. • Expands roles for existing organizations. • Facilitates action.
Funding	• Offers significant local funding base. • Proactively identifies new sources. • Prioritizes projects equitably and objectively in a mode-neutral manner.

21. Wisconsin Department of Transportation, *Translinks 21, A Multimodal Transportation Plan for Wisconsin's 21st Century, Executive Summary*. Madison, WI, (February 1995).

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6. RECOMMENDED STRATEGIES

To implement ISTEA effectively, leaders at all levels in the public and private sectors must reshape the context of how transportation and land use problems are defined, options are developed, and solutions are selected. As shown in Figure 6-1, the following types of strategies shape decision making:

- *Structural* strategies focus on increased modal integration, define new agency visions or missions, and establish partnerships that strengthen regional constituencies.

- *Procedural* strategies eliminate regulatory discrepancies, provide intermodal funding incentives, and define mobility in long-range plans.

- *Leadership* strategies develop improved intermodal planning capabilities by providing education about intermodalism, communicating success stories, and broadening the selection criteria of senior transportation officials.

As illustrated in Figure 6-1, structure, procedure, and leadership promote or impede regional or local decision making. The ISTEA implementation regulations are a good example of a procedural decision-making context. The local ISTEA decision-making process should conform to the ISTEA implementation regulations, which require financially constrained, long-range plans. This procedural context shapes the drafting of regional transportation plans by MPOs.

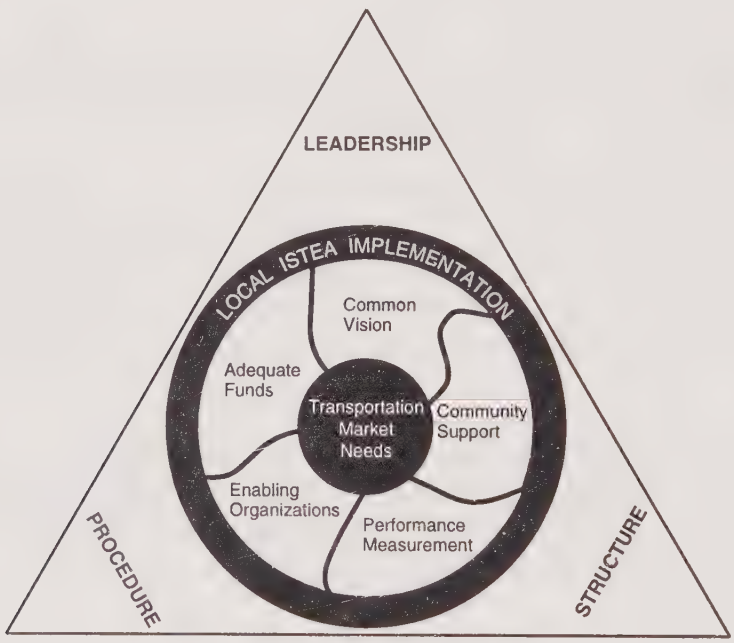
The local ISTEA implementation process cannot be prescribed—it must be developed at the local level. The research found strategies that enhance the context in which implementation can occur. "Context-shaping" strategies recommended for use at the federal, state, and local level are provided in the rest of this section.

STRUCTURAL STRATEGIES

The separation of modes within state and federal transportation agencies, extensive modal orientation in the transportation industry, and reluctance to share power and authority have constrained the implementation of ISTEA. The challenge is to change institutional structures to enable the development of an intermodal transportation system. The first three strategies are designed to provide the framework for improved intermodal planning and decision making.

FIGURE 6-1

DECISION-MAKING CONTEXT OF THE INTERMODAL PLANNING PROCESS



Strategy 1: Increase the modal integration of state and federal agencies to be consistent with the policies and programs contained in ISTEA.

The structure of transportation agencies, specifically at the federal and state levels, needs to complement the policies of intermodalism and mobility set forth in ISTEA. The different implementation strategies that will achieve modal integration range from full restructuring of transportation organizations to establishing modal teams that advocate modal interests. The U.S. DOT's current effort at merging the highway, transit, and railroad agencies into an Intermodal Transportation Administration is consistent with this strategy. This effort would be a significant step toward altering the federal transportation structure from one centered on modes to an organization whose efforts are focused on the nation's transportation system and the interactions among its many components.

A similar reorganization at the state and local levels would establish consistency in structure between transportation agencies. This would enhance communication between and decision making by federal and local governments. In many states, however, a wholesale restructuring of the state DOT may not be feasible or desirable. Functional integration of major transportation responsibilities could include the consolidation of transportation planning and programming, system design, and budgeting. For example, the Washington State DOT has centralized planning and programming without regard to mode. The state also used the concept of modal advocates to ensure that appropriate solutions are being considered during planning and that appropriate institutional structures are there.

The use of modal teams is another step toward modal integration. In Florida, increased functional integration has taken place through teams at the district level. Each team consists of a highway engineer, a transit official, and District Secretary. The Secretary of Transportation also encourages modal advocacy and encourages competition between modal interests, "The only time you don't see friction is when you don't see movement," he said.

STRUCTURAL STRATEGIES

Key Barriers

- Federal and state DOT structure separates modes
- Extensive modal orientation
- Reluctance to share power and authority
- Insufficient MPO track record and credibility

Recommended Strategies

Federal

- Increase modal integration

State

- Define a new vision and mission statement that focuses on market needs rather than modal solutions
- Increase modal integration

Regional (MPOs, transit agencies, local government)

- Develop partnerships to strengthen regional constituencies
- Broaden MPO policy boards to include all major transportation interests

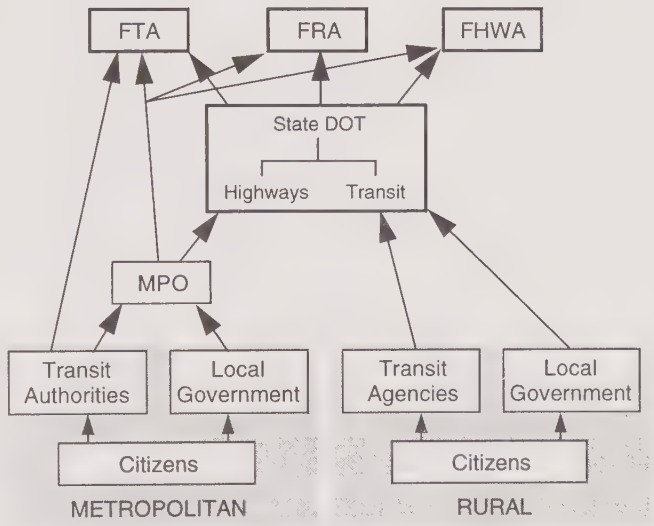
This research identified different ways to achieve increased modal integration to achieve the objectives of ISTEA. The left side of Figure 6-2 illustrates the typical hierarchical institutional relationships prior to ISTEA. The institutional challenge is to restructure transportation organizations to increase modal integration, encourage collaboration, and foster shared responsibility.

Strategy 2: Transportation agencies—particularly state DOTs, highway agencies, and transit authorities—should embrace intermodal planning in their vision or mission.

Many organizational problems that impede intermodal planning are rooted in agency vision and mission statements. Intermodal planning requires an organizational support structure, cooperation, and dialog among modal transportation agencies.

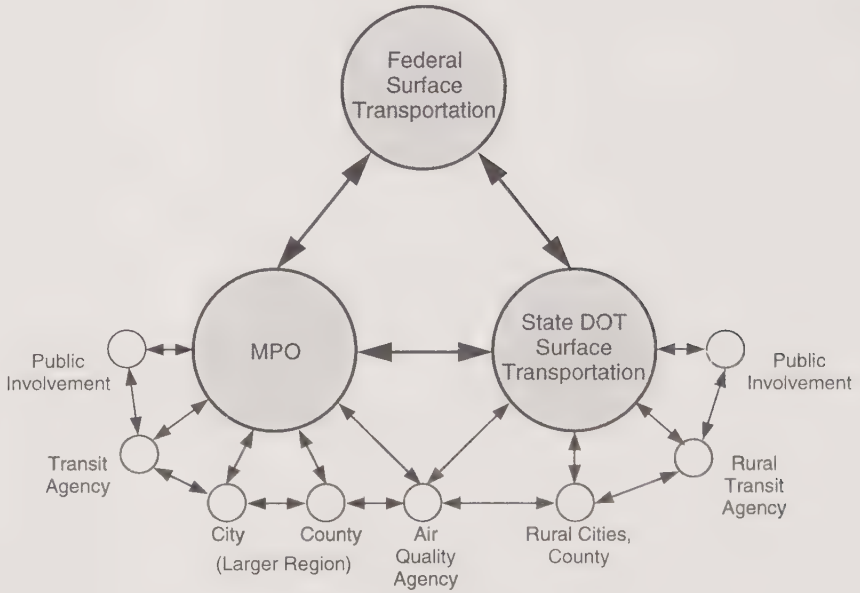
FIGURE 6-2

THE ISTEA INSTITUTIONAL CHALLENGES: MODAL INTEGRATION, COLLABORATION, AND SHARED RESPONSIBILITY



PRE-ISTEA (Typical)

- Structured
- Hierarchical
- Modally separated



POST-ISTEA (Conceptual)

- Collaborative
- Shared responsibility
- Modally integrated

Because an organization's mission guides its actions and decision-making processes, the mission must reflect broader transportation responsibilities for all transportation agencies. While transportation organizations may continue to address modal objectives, they also should stress the need to actively pursue and participate in intermodal opportunities. In essence, the broader mission is to promote transportation that is safe and efficient and evaluate transportation options to find the best solutions to meet market needs—not fitting the solution to a particular mode.

The State of Oregon has developed an exemplary vision statement:

> "The Oregon Transportation Plan envisions a transportation system that moves people and goods in a way that provides for livability and economic prosperity for all Oregonians. The system provides Oregonians with access to goods, services, jobs and recreation, while providing Oregon industry access to national and international resources and markets. To most effectively meet the state's needs, the transportation system takes advantage of the inherent efficiencies of each transportation mode and encourages interconnection between modes."
>
> —Oregon Transportation Plan

Strategy 3: MPOs should establish or strengthen partnerships with agencies, local officials, businesses, and community representatives to strengthen support from their regional constituencies.

This strategy calls for an invigorated and innovative MPO structure to work creatively with its local partners and to build an ongoing planning and programming process that facilitates choice, connectivity, cooperation, and coordination.

Structurally, several MPOs have strengthened support from their regional constituencies by doing the following:

- Developing formal partnerships with governmental agencies in the region;
- Including key transportation personnel, such as the transit agency chairperson or general manager, on the MPO policy board;
- Involving the private sector and public interest groups, including non-profit organizations, on the MPO board and advisory committees;
- Establishing intergovernmental task forces to address specific corridor or regionwide needs; and
- Creating a special commission to implement the long-range transportation plan.

The San Francisco Bay Area Partnership is an example of building a local constituency to facilitate intermodalism. Larry Dahms, Executive Director of the Metropolitan Transportation Commission in the San Francisco Bay Area, described the forging of new formal partnerships this way: "Launched almost immediately on the heels of the President's signing of ISTEA, the 36 governmental agencies comprising this 'Partnership'...covers the spectrum of local to federal agencies-transportation and environment-and multiple modes. Its goals are improved mobility and cleaner air. The Partnership's initial burst of energy was signaled by adoption of a regional Joint Urban Mobility Program, better known as 'JUMP Start.' It consists of 21 multi-agency projects designed to demonstrate an immediate ISTEA benefit—effective projects on the street and/or more understandable planning and decision processes."(31)

The Ohio-Kentucky-Indiana Regional Council of Governments (OKI) has established two commissions to address two key issues that affect implementation of the long-range transportation plan. The Commission on Land Use focuses on bringing consistency to its long-range plan goals and local land use policies. Its recommendations will be the basis for new transportation-sensitive land use standards and will establish criteria for planning commissions and departments throughout the region. The Commission on Transportation Financing and Transit Institutional Restructuring is studying how to restructure existing transit service institutions and how to finance its plan's implementation.(32)

PROCEDURAL STRATEGIES

Extensive regulatory requirements, complex and sometimes contradictory grant processes, and extensive reporting also can impede consideration and pursuit of intermodal transportation planning and projects. As one senior state DOT official stated, "the federal government must shift from their role as regulators to a role of a facilitator." The next three strategies direct this shift.

Strategy 4: Review and streamline procedures and regulations among the surface transportation agencies of the U.S. DOT and other federal agencies. This review should also simplify the regulations and address inconsistencies in order to reduce the MPO and state DOT administrative burden and clarify responsibilities.

The FHWA recently produced a "Regulatory Reinvention Initiative," which recommends measures to streamline procedures and eliminate regulations, where possible. The FTA recently revised its regulations in order to provide grantees increased flexibility in their procurement decisions. Further efforts to identify and eliminate inconsistencies in rules and regulations within the U.S. DOT itself and other federal agencies would be beneficial. For example, the U.S. DOT and other stakeholders report discrepancies in how alternatives are handled in regulations administered by the Environmental Protection Agency and the major investment study process administered by FHWA. Efforts to simplify ISTEA implementation regulations would benefit understaffed MPOs, state DOTs, and transit agencies.

PROCEDURAL STRATEGIES

Key Barriers

- Federal regulations overly extensive
- State laws limit funding flexibility
- Insufficient tools for comparing mobility projects
- Poor integration of land use and transportation decision making

Recommended Strategies

Federal

- Review and streamline laws, regulations, and guidelines to intermodalism and simplify requirements
- Consider incentives to pursue intermodal solutions
- Develop analytical framework for comparing intermodal solutions

State

- Consider incentives to pursue intermodal solutions
- Define mobility measures in long-range plans
- Develop project selection criteria and procedures that reflect community goals.

Regional (MPO, transit agency, local government)

- Define mobility measures in long-range plan
- Facilitate external support and interest in intermodal approaches
- Develop project selection criteria and procedures that reflect community goals

Strategy 5: Consider funding incentives that promote intermodal planning to enhance the willingness with which state, regional, and local transportation agencies view and pursue intermodal approaches to mobility improvements.

This strategy suggests that intermodal planning and resulting projects receive special promotion and attention. For example, in the recent past, the Interstate Transfer Program provided an opportunity to transfer interstate highway funds to transit uses, and an 85 percent federal match provided an incentive over the standard 80 percent federal transit match.

Several metropolitan areas took advantage of the program. Another example is the promotion and attention that privatization efforts received in the 1980s.

Another incentive would be to amend project selection criteria to give greater weight to projects resulting from effective intermodal planning. Several MPO stakeholders mentioned this strategy as one they had either adopted or were considering.

If federal and state agencies were to commit to a timely review and approval of intermodal projects, with a streamlined process for distributing funding in an expeditious fashion, this would provide an additional incentive.

Strategy 6: State, MPO, and transit agencies should define "mobility" and develop measures that reflect mobility in their long-range transportation plans based upon the needs of the jurisdiction.

A strategy to define mobility is believed to be best implemented by transportation planners and decision makers at the state, regional, and local levels. In this way, mobility can be defined in response to local needs. Planners should assess a project on its quantitative value but also should consider a project's qualitative impact on the customers that it intends to serve—whether they are commuters, business sector representatives, or other types of traveler.

In *NCHRP Synthesis of Highway Practice 201: Multimodal Evaluation of Passenger Transportation*, Dr. Scott Rutherford states that "A multimodal measure of mobility should be developed to compare effectiveness across modes. This measure should not only reflect mobility implications of highway and transit improvements, but also demand management, land use forms, and nonmotorized travel modes." The current intermodal planning research strongly supports this strategy.

Strategy 7: MPOs and state DOTs should develop project selection criteria and procedures that reflect state and community goals.

A critical final step in the transportation planning process is the selection of projects to be funded. Project selection criteria provide the framework for (1) taking community goals and priorities, articulated in the development of long-range plans, citizen outreach, and multi-agency coordination and (2) translating these into "on the ground" transportation expenditures. Unless the selection criteria and programming structure capture the community's priorities as well as enable fair comparison of highway, transit, and alternative modes, traditional modal orientation will continue. Although ISTEA was passed several years ago, many agencies have not yet achieved intermodal objectives because their project programming criteria are inconsistent with intermodalism. As an East Coast Government and Community Affairs manager noted, "many jurisdictions lack a generally accepted means of defining goals that would provide a credible template on which to base project selection criteria."

A wide array of project selection processes are being utilized that reflect community goals. Typical of efforts to achieve "mode-neutral" criteria is a process used by the North Front Range Transportation Air Quality Planning Council in Fort Collins, Colorado. The

MPO uses 11 criteria for each project and assigns a weight between 1 and 5 to reflect community values. According to local staff, the process has resulted in an excellent mix of highway capacity improvements, transit enhancements, and transportation demand management projects.

Other areas (such as the Rochester, New York, region) first determine how much funding should be made available to each mode and then rank the projects by mode. Several stakeholders during the research argued that the typical project selection scoring system does not adequately account for the local market niches for different modes and that a slightly higher score does not always mean that the higher scoring project is in the best interests of the region.

Regardless of the project selection procedure chosen, the research points to a clear need for developing a project programming structure tailored to local conditions. A western MPO executive director conveyed to the researchers how the MPO originally tried to adapt the project selection criteria from another region but found that their community goals required a totally different approach.

LEADERSHIP DEVELOPMENT STRATEGIES

Agency and elected officials who appreciate the "big picture" are skilled at helping communities address their problems, generate solutions, and follow through on actions that can make the largest contribution to success. Although planners and engineers, who want to evaluate a range of alternatives, and elected officials, who often need immediate solutions, will continue to need to negotiate, the following strategies will improve leadership development.

Strategy 8: Inform elected officials about the benefits and dividends of intermodal planning.

A broad-based effort to inform elected officials and organizational leaders about the benefits of intermodal transportation could initiate or stimulate cooperative efforts. More information could enhance the relationship of transportation planning, land use planning, and air quality as well as help elected officials suggest reasonable alternative solutions to local transportation problems.

LEADERSHIP DEVELOPMENT STRATEGIES

Key Barriers

- Insufficient provision of information on intermodal benefits
- Inadequate collaborative skills
- Insufficient staff for intermodal planning

Recommended Strategies

Federal

- Coordinate initiative to inform elected officials about intermodal planning
- Fund development of intermodal planning success stories

State

- Broaden hiring criteria for senior officials
- Modify incentive structures for senior transportation planning officials
- Communicate success stories (process and results)

Regional (MPO, transit agency, local government)

- Inform local elected officials of the benefits of intermodal planning
- Broaden the selection criteria for senior officials
- Modify incentive structures for hiring senior transportation planning officials
- Communicate success stories (process and results)

Specific actions proposed by the U.S. DOT and the U.S. Advisory Commission on Intergovernmental Relations and others include the following:

- Preparing a video on ISTEA planning for state, MPO, and local policy officials;

- Conducting seminars on ISTEA planning for local elected officials and senior staff for presentation at the National League of Cities, U.S. Conference of Mayors, National Association of Counties, National Conference of State Legislatures, Council of State Governments, and National Association of Regional Councils' annual meetings; and

- Getting on line with the Internet, satellite hook-ups, electronic bulletin boards, and interactive video conferencing.

The National Transit Institute is also developing a curriculum on intermodal planning with plans to conduct local intermodal planning seminars.

Before these ideas can be truly effective, MPO and state DOT staff need to understand how their elected officials learn about transportation issues. For example, staff may need to know what conferences officials attend, what magazines they read, and with whom they speak. With this information, staff can develop an affordable communications plan that sends a consistent message about the intermodal planning aspects of ISTEA.

Strategy 9: Communicate success stories to staff, elected officials, and community organizations.

Management literature shows that people in organizations communicate as much through stories as through facts and data. The strategy here would capitalize on this phenomenon by documenting several success stories surrounding intermodal planning and policies. Case studies of successful practices should document the steps people followed and the challenges they faced and how they overcame them, as well as the results achieved. Because intermodalism involves the use of informal and political processes as well as the traditional analytical ones, people need a road map of how to obtain support and commitment, perhaps more than they need a road map about how to analyze the options.

The Association of Metropolitan Planning Organizations has developed and published mini case studies of successful ISTEA implementation practices around the country, called *In the Spotlight: MPO Best Practices*. These publications are useful, although they do not document the institutional challenges and barriers that were overcome. These and other case studies should be widely disseminated in various media.

Strategy 10: Broaden the selection criteria for hiring senior transportation officials.

The new collaborative skills required to operate in a multimodal environment argue for redefining the job descriptions of senior managers in the transit industry, highway industry, MPOs, and state DOTs. There is a need to supplement the knowledge and expertise within a particular transportation function with criteria such as the following:

- Working effectively in a multimodal environment,
- Managing teams composed of diverse specialties,
- Communicating a shared vision,
- Working constructively with diverse stakeholder groups, and
- Helping diverse organizations reach agreement and take action (versus just studying the issue).

Although many of these are qualitative in nature and, therefore, hard to assess quickly, they will become increasingly important to success in the multimodal environment. The incentive structure and performance criteria for senior transportation planning officials should be revised to incorporate these new roles. Managers who do not look for opportunities in these areas may be left behind.

CHAPTER REFERENCES

31. U.S. Department of Transportation, *ISTEA Regional Roundtable Report and Action Plan, A Progress Report from Our Customers*. Washington, D.C. (March 1994).

32. Armstrong, C.S., "'Big Picture' Thinking, New Roles and Strengthened Partnerships are Keys to OKI's Success," *In the Spotlight: MPO Best Practices*, Association of Metropolitan Planning Organizations (1995).

7. CONCLUSIONS AND SUGGESTED RESEARCH

CONCLUSIONS

In the 4 years since ISTEA authorization, many regions and states have made significant strides to initiate and improve intermodal transportation planning. Transportation organizations have changed their structures and processes to collaborate successfully and share responsibilities. The research has shown numerous examples of successful intermodal planning practices, including the following:

- Forging of interagency partnerships;
- Expanding MPO policy board membership to reflect multimodal interests;
- Increasing cooperation among modes of transportation in long-range planning efforts;
- Developing intermodal transfer facilities with multi-agency participation;
- Considering an array of modal alternatives, especially tied to major investment study efforts; and
- Creating new project selection criteria to reflect intermodal thinking.

These intermodal planning practices, however, have not been widely adopted from a nationwide perspective.

Many states and regions have found that organizational, interjurisdictional, and resource barriers have impeded the progress of intermodal policies and planning. The research showed that the organizational legacies, regulatory processes, and culture of many federal, state, regional, and local transportation entities cause them to be ill-equipped to enact an intermodal vision.

While there has been some movement toward restructuring at the U.S. DOT, most state DOTs have maintained an organizational legacy of modal separation. While ISTEA shifted some federal transportation funding decisions from the state DOT to a shared responsibility between the state DOT and MPO, conflicts about authority and responsibility between the MPO and state DOT remain. Conflicting views on authority and responsibility, insufficient trust, and conflicting land use and transportation policies have restrained progress in intermodal planning in many jurisdictions. Finally, sufficient funding, education, staffing, and analytical tools are essential to the success of intermodal planning. A deficiency in any of these resources was identified as a significant barrier in many jurisdictions. These barriers have been restraining forces to achievement of several ISTEA institutional challenges, especially decentralization of decision making, broadening participation and collaboration during the planning process, and modal integration of transportation organizations.

Because of human nature and behavior, barriers can be minimized but restraining forces will always be present in the transportation planning process. The severity and pervasiveness of institutional barriers in a given state or region is dependent on an array of local land use and economic conditions, historical legacies of intermodal institutional relationships, and surface passenger transportation market conditions. The research indicates that even when significant barriers exist, driving forces can overpower restraining forces and

result in effective intermodal policies and planning practices. Greater leadership commitment, new regional constituencies, increased funding, and additional provision of information are the primary driving forces that can overcome existing barriers and continue the excellent progress that has been made toward achieving ISTEA's goals. The ability of key driving forces to overpower restraining forces is illustrated in Figure 7-1.

ISTEA policies have been working in many communities, regions, and states. There has been significant momentum toward improved intermodal planning practices. Given time and patience, driving forces of change in ISTEA will enable intermodal planning for the efficient movement of people in a growing number of communities. The result will be improved mobility for all citizens.

SUGGESTED FURTHER RESEARCH

The research effort pointed to four specific areas where further research would be valuable:

1. **Development of case studies of successful intermodal planning practices.**

Many of the stakeholders interviewed and the respondents to the national survey expressed the need for the development of case studies that document successful intermodal planning practices. The Association of Metropolitan Planning Organizations has developed and published mini case studies of successful ISTEA implementation practices around the country, called *In the Spotlight: MPO Best Practices*. These publications are useful, although they are typically limited to MPOs and do not document the institutional challenges and barriers that were overcome. Development of additional case studies that document how institutional barriers were addressed to implement successful intermodal planning practices would be a welcome addition to the transportation planning literature.

2. **Research the effectiveness of different collaborative techniques that foster external support of intermodalism.**

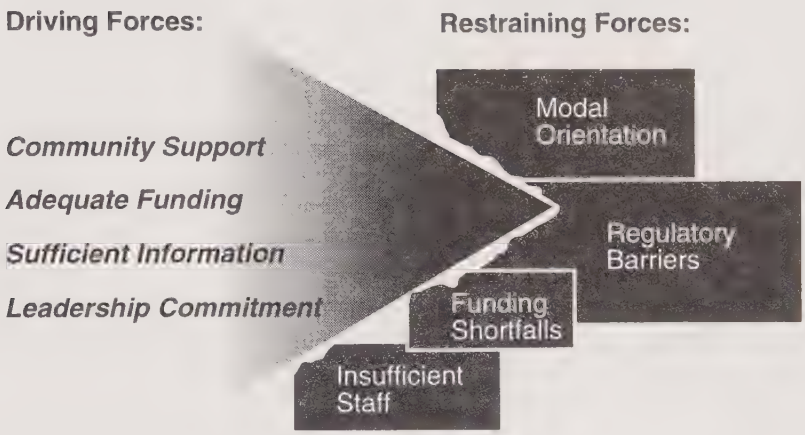
A key research finding was that gaining external support for intermodalism is the most critical prerequisite to sound intermodal planning and policies. Successful collaborative processes at the local level are key to such efforts. Research efforts that document the effectiveness of different collaborative tactics could lead to a published guidebook that local communities could utilize to foster increased levels of external support for intermodalism.

3. **Conduct research to develop common measures of multimodal mobility.**

State, MPO, and transit agencies should define "mobility" and develop measures that reflect mobility in their long-range transportation plans based upon the needs of the jurisdiction. The current research strongly supports Dr. Scott Rutherford's research recommendation that "A multimodal measure of mobility should be developed to compare effectiveness across modes. This measure should not only reflect mobility implications of highway and transit improvements, but also demand management, land use forms, and nonmotorized travel modes."

FIGURE 7-1

DRIVING FORCES CAN OVERPOWER RESTRAINING FORCES



APPENDIX A

STAKEHOLDER INTERVIEW GUIDE
MPO, STATE DOT, TRANSIT GENERAL MANAGERS

TCRP H4C
INSTITUTIONAL BARRIERS TO INTERMODAL TRANSPORTATION POLICIES AND PLANNING

INTERVIEW GUIDE
MPOs, STATE DOTs, TRANSIT GENERAL MANAGERS

INTERVIEWEE_____

STATE_____

AGENCY_____

STAKEHOLDER TYPE_____

STUDY AND SURVEY PURPOSE - To be explained prior to each interview.

1. Crain & Associates is conducting a study under the Transit Cooperative Research Program (TCRP) that will identify strategies to overcome institutional barriers that hinder achievement of a national intermodal transportation system addressed in the ISTEA legislation.

   This study will ultimately provide tested strategies to overcome or minimize the impact of the most pervasive barriers to intermodal planning and decision-making.

2. One of the stated objectives of ISTEA is to promote areawide and statewide planning for transportation improvements based on community and development needs, rather than plans being developed separately by modes (e.g. highway and transit).

3. This interview is intended to help us shape a nationwide survey regarding barriers to intermodal planning and decision making encountered by transportation and regional agencies that we will be conducted next month. These interviews will also be valuable in quantifying the pervasiveness of specific barriers and identifying key leverage points for overcoming institutional barriers to intermodal planning and decision making.

4. The collective responses to these interviews will be analyzed to identify the pervasiveness of barriers and strategies used to eliminate them.

Interviewee:_____

GENERAL INTERVIEW GUIDE FOR SDOTs, MPOs, TRANSIT AGENCIES

PART I

Introduction Question

Would you describe significant impacts ISTEA has had in your area related to intermodal planning and decision-making?

(Areas to touch upon are funding changes, increases in transit projects, flexing of funds, more public involvement, greater awareness of intermodal issues or an increase in intermodal planning and intermodal projects.)

1. ORGANIZATIONAL CAPABILITIES

1-1. Since the inception of ISTEA, has your organization added staff or skills that enable your organization to plan projects effectively on an intermodal basis?

1-2. Has your MPO and State DOT developed new project selection criteria that rates proposed projects on the basis of mobility as opposed to mode?

If no, why not?

If yes, ask:

- Would you give a general description of this process?
- Who were the entities that supported this process?
- Who were the entities that did not support this process?
- How were their objections overcome?
- Please provide a copy of the evaluation form.

2. ORGANIZATIONAL STRUCTURE AND CULTURE

Ask everyone:

2-1. Since the passage of ISTEA, has your organization made changes to incorporate and stress awareness and benefits of intermodal planning?

2-2. Since ISTEA's passage, how would you describe the cooperation between modal agencies, SDOTs and MPOs in your area in regards to intermodal planning and decision making?

- If there is cooperation ask: In those instances when cooperation and coordination are apparent, what is the formula/impetus for this cooperation, who are the main participants?

2-3. Have you observed or experienced barriers to interagency cooperation regarding intermodal planning and decision making?

- What are these barriers, their causes, and how can their impact be lessened or eliminated?

2-4. Have you observed modal biases on the part of transportation stakeholders?

- If yes, ask: What stakeholders display this and under what circumstances do these modal biases arise?

2-5. Is there effective and continuous communication regarding project planning between transit agencies/planning agencies and highway agencies in your area?

- To what can you attribute this?

- If barriers <u>have</u> been encountered, what are they, and how have they been dealt with?

2-6. Typically, within states, the highway agency is part of the State DOT and the transit agency is an independent authority. Do you think this affects intermodal planning, intermodal cooperation, and flexible funding decisions? How? If you feel this is a problem, how would you recommend solving it?

2-7. Can you identify other types of modal bias that you've observed or perceive exist that might inhibit intermodal planning and decision-making, and why do you believe each occurs?

<u>FOR MPOs AND GENERAL MANAGERS ONLY:</u>

2-8. Has the transit agency staff assumed a larger role in the MPO's technical process, such as evaluating potential projects, and assembling the TIP?

3. <u>INSTITUTIONAL INCENTIVE STRUCTURES & LEGAL REGULATORY FRAMEWORKS</u>

Ask everyone:

3-1. Have any new laws, regulations, Resolutions been proposed or passed by your state or regional entities pursuant to ISTEA that promote intermodal planning and decisions?

Please elaborate.

3-2. Does your state or region have any laws or regulations that prevent tax revenue from being expended on a particular mode of transportation such as transit or highways?

3-3. Has your state or region enacted any laws or regulations which have or which could impede implementation of ISTEA's intermodalism goals or have in place existing constitutional provisions, statutes, or regulations which have the effect of impeding ISTEA's intermodalism goals?

3-4 Can you identify any other institutional, legal, or regulatory aspects that could be acting as barriers to intermodalism in your area?

4. FINANCIAL RESOURCES

Ask everyone:

4-1. Has your state, region, locale exercised the flexible fund provisions in ISTEA?

- If yes, for what purposes?
- If no, why not?

4-2. Has your agency encountered barriers (e.g., modal bias) that prevent the use of flexible funding opportunities for transit projects or highway projects?

If yes, ask:

- Please identify these barriers?
- What strategies have you attempted to overcome these barriers? Which strategies were effective, and which ones were not?
- What strategies would you envision would be effective? Who would the key stakeholders be in deciding upon flexible funding?

4-3. Are any future year projects being re-evaluated in an effort to provide flexible funds for transit and intermodal projects?

4-4. What effect does the appropriation level of STP, CMAQ and NHS funding for your area have on making intermodal decisions?

4-5. Are you aware of any other financial barriers that have been overcome or that might still impede intermodalism?

4-6. What effect does the funding appropriation level of STP and CMAQ funding for your area have on making intermodal decisions?

4-7. Are you aware of any other financial barriers that have been overcome or that might still impede intermodal decision making in your area?

5. SUPPORT OF INTERMODAL PLANNING AND DECISION MAKING

Ask of everyone:

5-1. Do you feel that within your transportation community, strategic goals that foster intermodal planning and policy development are defined? Please elaborate.

- Are there barriers that have impeded this from occurring, what are they, and how were they dealt with?

- Do organizational mission statements support intermodalism? Do you think mission statements that support intermodalism would foster more intermodal planning, etc. (Esprit de Corps)

5-2. To what extent has state and regional politics in your area facilitated or impeded the implementation of ISTEA objectives and intermodal decision-making? Please elaborate.

5-3. Apart from transportation and planning agencies, which stakeholders are participating most actively in trying to influence intermodal transportation planning funding decisions in your region/state? Which are least involved?

5-4. If you could make one change that would improve your area's organizational capabilities to achieve ISTEA objectives, what would that be?

5-5. Do you have any other comments regarding intermodal planning, decision-making, and flexible funding that you would like to mention?

APPENDIX B

NET IMPRESSION® QUESTIONNAIRE

TRANSPORTATION RESEARCH BOARD
INTERMODAL POLICIES & PLANNING

This questionnaire asks about your experience and opinions on various aspects of intermodal transportation policies and planning since the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991. Intermodal planning is one of the stated objectives of ISTEA and is defined here as promoting areawide and statewide planning for transportation improvements based on community and development needs, rather than transportation plans being developed separately by mode. The survey effort is part of a study under the Transit Cooperative Research Program* that will develop strategies to overcome institutional barriers that hinder full achievement of intermodalism as envisioned by ISTEA. Individual survey responses will be kept confidential.

For the scaled questions, please indicate your rating by circling the number from 1 to 7 where 1 means "Needs Major Improvement" and 7 means "Excellent". If you need more space for the write-in questions, please use additional sheets. Please answer all questions to the best of your ability.

Please return the completed questionnaire by Friday, February 10th, in the enclosed envelope to Crain & Associates, Inc., 120 Santa Margarita, Menlo Park, CA 94025-2725.

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1. **Leadership Support for Intermodalism.** How well does the leadership in your jurisdiction perform in terms of fostering intermodal policies and planning?

		Needs Major Improvement						Excellent
a.	Visible leadership support for intermodal planning and decision-making.	1	2	3	4	5	6	7
b.	Fostering a vision and goals that encompass intermodalism.	1	2	3	4	5	6	7
c.	Encouraging communication among modes.	1	2	3	4	5	6	7
d.	Encouraging communication among levels of government.	1	2	3	4	5	6	7
e.	Willingness to experiment with new ideas and ways of thinking.	1	2	3	4	5	6	7
f.	Making lower level staff aware of intermodalism guidelines and regulations.	1	2	3	4	5	6	7
g.	Effectiveness in influencing external stakeholders.	1	2	3	4	5	6	7
h.	Maintaining a long-term focus on transportation system needs.	1	2	3	4	5	6	7
i.	**MPOs and transit agencies:** Visible leadership support for intermodal planning and decision-making at the state DOT.	1	2	3	4	5	6	7
j.	Everything considered, how do you rate leadership effectiveness in the support of intermodalism?	1	2	3	4	5	6	7

What suggestions do you have for improving leadership support for intermodalism?

_____

_____

_____

* *TCRP studies are sponsored by the Federal Transit Administration and administered by the National Academy of Sciences, acting through the Transportation Research Board and through the Transit Development Corporation, Inc., of the American Public Transit Association.*

(OVER)

2. **Governmental Coordination and Communication In Support of Intermodalism.** How is the communication within and between government agencies in your jurisdiction?

	Needs Major Improvement						Excellent
a. Responsiveness of federal agencies to provide intermodal planning support.	1	2	3	4	5	6	7
b. Coordination between key state and local parties (MPOs, modal agencies, etc.).	1	2	3	4	5	6	7
c. Cooperative spirit at the local level.	1	2	3	4	5	6	7
d. Interlevel communications and cooperation within the state DOT.	1	2	3	4	5	6	7
e. Continuing communication between TIP/STIP processes.	1	2	3	4	5	6	7
f. Level of trust between the agencies involved with transportation planning.	1	2	3	4	5	6	7
g. FTA receptivity towards facilitating intermodal plans.	1	2	3	4	5	6	7
h. FHWA receptivity towards facilitating intermodal plans.	1	2	3	4	5	6	7
i. Everything considered, how do you rate the overall effectiveness of coordination and communication regarding implementation of intermodalism?	1	2	3	4	5	6	7

What suggestions do you have for improving governmental coordination and communication?_____

_____

_____

3. **ISTEA Funding Provisions and Regulations.** How do the various aspects of ISTEA funding and related regulations facilitate intermodalism in your jurisdiction?

a. Sufficient flexibility in federal resource allocation.	1	2	3	4	5	6	7
b. State DOT support of MPO role in guiding the use of flexible funds for intermodal planning and projects.	1	2	3	4	5	6	7
c. Consistency in project funding eligibility among federal agencies.	1	2	3	4	5	6	7
d. Sufficient federal funding to support mobility projects.	1	2	3	4	5	6	7
e. Adequacy of local funding to support mobility projects.	1	2	3	4	5	6	7
f. Everything considered, how do you rate the overall effectiveness of funding provisions and regulations under ISTEA?	1	2	3	4	5	6	7

What suggestions do you have for improving ISTEA funding provisions and regulations? _____

_____

_____

4. **Gaining External Support for Intermodalism.** How effective is your agency in generating awareness of the benefits of intermodal planning and mobilizing external support for intermodal objectives?

a. Promoting understanding of the links between transportation, land use, economy, and the environment.	1	2	3	4	5	6	7
b. Mobilizing local *political* leadership for the intermodal planning concept.	1	2	3	4	5	6	7
c. Mobilizing local *business* leadership behind intermodalism.	1	2	3	4	5	6	7
d. Mobilizing *citizen* input on intermodal planning options.	1	2	3	4	5	6	7
e. Building a constituency for the intermodal planning concept.	1	2	3	4	5	6	7
f. Educating key parties about the intermodal planning concept.	1	2	3	4	5	6	7
g. Everything considered, how do you rate the effectiveness of efforts to mobilize key political officials and other external stakeholders in support of intermodalism?	1	2	3	4	5	6	7

What suggestions do you have for improving effectiveness in mobilizing support for intermodal planning and decision-making? _____

_____

_____

5. **Transportation Planning Processes.** How well does your planning process implement intermodal policies under ISTEA? If the statement is not applicable to your agency, please circle "NA".

		Needs Major Improvement						Excellent	
a.	Giving equal consideration to the full range of transportation alternatives.	1	2	3	4	5	6	7	NA
b.	Adopting effective project selection criteria.	1	2	3	4	5	6	7	NA
c.	Adequate planning and analysis tools to make intermodal decisions.	1	2	3	4	5	6	7	NA
d.	Effectiveness in incorporating customer concerns into the planning process.	1	2	3	4	5	6	7	NA
e.	Openness of planning processes to new *ideas*.	1	2	3	4	5	6	7	NA
f.	Openness of planning processes to new *players*.	1	2	3	4	5	6	7	NA
g.	Providing decision-makers with adequate information.	1	2	3	4	5	6	7	NA
h.	Evaluating transportation plans for land use and air quality impacts.	1	2	3	4	5	6	7	NA
i.	Everything considered, how effective are your current transportation planning processes in incorporating intermodalism?	1	2	3	4	5	6	7	NA

What improvements in your current transportation planning processes can you suggest that would foster intermodal decision-making?

_____

_____

_____

6. **Intermodal Planning and Implementation Capabilities.** How are your agency's organizational structure, skill levels, and capabilities for implementing intermodal planning in your area of jurisdiction? If the statement is not applicable, please circle "NA".

		Needs Major Improvement						Excellent	
a.	Moving from philosophical support of intermodalism to an action plan.	1	2	3	4	5	6	7	NA
b.	Ability to plan a transportation system aimed at improving the movement of people and goods as opposed to moving vehicles.	1	2	3	4	5	6	7	NA
c.	Skills in managing public involvement.	1	2	3	4	5	6	7	NA
d	Skills in planning appropriate intermodal projects.	1	2	3	4	5	6	7	NA
e.	Skill in recognizing local barriers and hurdles to intermodalism.	1	2	3	4	5	6	7	NA
f.	Training for planning staff regarding the intermodal planning concept.	1	2	3	4	5	6	7	NA
g.	Formal education of planning staff on intermodal planning opportunities.	1	2	3	4	5	6	7	NA
h.	Amount of staff resources available for intermodal planning.	1	2	3	4	5	6	7	NA
i.	Processes for resolving conflicts and disagreements.	1	2	3	4	5	6	7	NA
j.	Clear delineation of roles and responsibilities for intermodal projects.	1	2	3	4	5	6	7	NA
k.	Everything considered, how do you rate your organization's intermodal planning and implementation capabilities?	1	2	3	4	5	6	7	NA

What suggestions do you have for improving the planning and implementation capabilities of those agencies involved in the intermodal transportation planning process?

_____

_____

_____

7. **Considering all the factors listed above (intermodal planning and implementation capabilities, leadership support, transportation planning processes, governmental coordination and communication, ISTEA funding provisions and effectiveness in mobilizing key political officials and other stakeholders) how do you rate your agency's experience with intermodal planning under ISTEA?**

Needs Major Improvement						Excellent
1	2	3	4	5	6	7

8. **If you could make one change that would improve intermodal planning and decision-making under ISTEA, what would that be?** (Attach sheet as necessary)

_____

_____

_____

_____

9. **Describe the best example of intermodal planning in your area. What in your opinion are the reasons for its success?** (Attach sheet as necessary)

_____

_____

_____

_____

10. **Where do you work?** (Check only one)

❑ State DOT ❑ MPO

❑ Transit agency with _____ peak period buses/trains ❑ Other (please specify _____)

11. **What is your job title?** (Check only one for the person completing this questionnaire)

❑ Executive Director ❑ General Manager ❑ Secretary

❑ Deputy Director ❑ Director of Planning ❑ District Director/Manager

❑ Other (please specify): _____

12 **What city and state do you work in?** _____

City (optional) **State**

13. **Are you in an air quality non-attainment area?** ❑ Yes ❑ No

14. **MPOs and transit agencies: check all of the operating environments that apply to your jurisdiction:**

❑ Urban ❑ Suburban ❑ Rural

Thank you for your help!

Please return the questionnaire in the envelope provided.

(Crain & Associates, Inc. - 120 Santa Margarita Ave.; Menlo Park, CA 94025-2725)

APPENDIX C

NET IMPRESSION® SURVEY RESPONDENT PROFILE

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NET IMPRESSION® SURVEY RESPONDENT PROFILE

A total of 421 valid questionnaires were tabulated. There were a total of 60 state DOT stakeholders, 181 MPO stakeholders, 160 transit agency stakeholders, and 20 stakeholders who listed themselves as a city, county, or Indian Reservation.

Table C-1 shows the distribution of respondents by state and stakeholder type. Overall, all 50 states and Washington D.C. are represented. By stakeholder group there are:

- 160 transit agency stakeholders representing 42 states
- 181 MPO stakeholders representing 43 states
- 60 state DOT stakeholders representing 39 states.

California had the most stakeholders represented with 34, followed by 24 for New York, 23 for Texas, and 20 each for Ohio and Florida.

Table C-2 shows the respondent job title by stakeholder type. A total of 36% of the questionnaires were completed by the chief executive of the agency, including the job titles of executive director, general manager, or secretary. Another 34% of the questionnaires were completed by the Director of Planning for the agency.

Table C-3 is a breakdown for the transit agency respondents and the relative size of the agency. About 36% of the transit agencies were small with less than 25 buses. About 31% of the transit agencies were medium-sized, with between 26 and 100 buses. Finally, 32% were large transit agencies with more than 100 buses and trains.

Table C-1

RESPONDENT STATE BY STAKEHOLDER TYPE

State	Stakeholder Type				Total Cases*
	State DOT	MPO	Transit Agency	Other	
Alaska	1				1
Alabama		3	1		4
Arkansas	1	4			5
Arizona	1	2	1	1	5
California	2	12	18	4	34
Colorado		3	5	1	7
Connecticut	1	1	2		4
District of Columbia			1		1
Delaware	2				2
Florida		14	6	1	20
Georgia		5	3	1	8
Hawaii	1		1		2
Iowa	1	1	6		8
Idaho	2	3	1		6
Illinois	2	5	5		12
Indiana	1	6	5	1	12
Kansas	1	3		1	5
Kentucky	2	2	1		5
Louisiana	1	1	2		4
Massachusetts	1	5	3		9
Maryland	1	1	1	2	5
Maine	1	4	1	1	7
Michigan	1	5	5		11
Minnesota			3		3

TABLE C-1

RESPONDENT STATE BY STAKEHOLDER TYPE
(Continued)

State	Stakeholder Type				Total Cases*
	State DOT	MPO	Transit Agency	Other	
Missouri	1	3	3	2	8
Mississippi	1	2			3
Montana	1	3	2		6
North Carolina	1	5	3	3	10
North Dakota	1	4	1		6
Nebraska	1			1	2
New Hampshire	1	2	1		4
New Jersey				1	1
New Mexico		3	2		5
Nevada	1	3	2	2	5
New York	3	11	6	4	24
Ohio	2	9	9		20
Oklahoma	1	3	1		5
Oregon	3	2	2		7
Pennsylvania		8	7	3	18
Rhode Island	1	1	1		3
South Carolina			1		1
South Dakota	1	1	1		3
Tennessee		2	4		6
Texas	4	12	6	2	23
Utah	1	1	1		3

TABLE C-1

RESPONDENT STATE BY STAKEHOLDER TYPE
(Continued)

State	Stakeholder Type				Total Cases*
	State DOT	MPO	Transit Agency	Other	
Virginia		5	8		13
Vermont	1		1		2
Washington	3	5	9	2	18
Wisconsin	1	5	6	2	13
West Virginia		1			1
Wyoming	1	1			2
Missing State Designation	7	9	12		28

*Rows do not add up to total cases due to multiple responses.

Table C-2

RESPONDENT JOB TITLE BY STAKEHOLDER TYPE

Job Title	Stakeholder Type				Total Cases*
	State DOT	MPO	Transit Agency	Other	
Executive Director	3	59	31	8	95
General Manager	1	2	49	2	52
Secretary	2				4
Deputy Director	2	10	11	2	24
Director of Planning	33	50	48	15	142
District Director/ Manager	2	1			3
Transportation Planner	8	52	12	5	74
Other	8	3	9	2	20
Missing Title Descriptions					7
Total Cases*	60	181	160	20	421

*Columns and rows do not add up to total cases due to multiple responses.

Table C-3

TRANSIT AGENCY RESPONDENT SIZE

No. of Buses/Trains	Frequency	Percent
1-25, small	54	36.5%
26-100, medium	46	31.1%
101+, large	48	32.4%

Table C-4

RESPONDENT N0N-ATTAINMENT STATUS

Air Quality Status	Frequency	Percent
Non-Attainment Area	208	52.4%
Attainment Area	189	47.6%

APPENDIX D

PACIFIC CONSULTING GROUP'S NET IMPRESSION® MODEL

APPENDIX D

PACIFIC CONSULTING GROUP'S NET IMPRESSION® MODEL

NET IMPRESSION

Pacific Consulting Group's (PCG) Net Impression® customer satisfaction measurement model is designed to help service companies and governmental entities understand where improvements will make the most difference to customers. In past research, we discovered that customers develop a mental "scorecard" based on their experiences, and that they use this scorecard in forming their overall opinion or "net impression" of the entity being evaluated, in this case intermodal policies and planning.

The scorecard for this research consists of broad stakeholder perceptions of these factors that make success--or lack thereof--with intermodal planning under ISTEA. These factors are organized into broad categories called arenas and within arenas into intermodal planning factors that define good or poor performance within an arena. Stakeholders' overall net impressions of the intermodal planning process are measured through quantitative survey data.

Net Impression is the customer measurement component of PCG's Applied Service Quality® (ASQ) program. It has been used by a number of major companies, including American Airlines, American Express, Bank of America, Pacific Bell, Pacific Gas and Electric Company, IBM Corporation, and Metropolitan Life Insurance Company, to name a few. Public sector applications include the Bureau of the Census, Internal Revenue Service, the Department of Energy, Department of the Interior and the Department of Health and Human Services.

QUALITATIVE RESEARCH

Net Impression begins with a qualitative research step (in this case personal telephone and a few personal interviews) in which the broad arenas that drive performance are defined. For an individual company or governmental entity, they can range from a fairly operational concern such as "Managing My Account," to something more abstract such as "Showing Concern for the Environment" or "Maintaining an Effective Business Partnership."

During the stakeholder interviews, six broad arenas emerged as critical to the success of intermodal planning and decision-making: 1) leadership support for intermodalism 2) governmental coordination and communication in support of intermodalism; 3) ISTEA funding provisions and regulations; 4) gaining external support for intermodalism; 5) transportation planning processes; and 6) intermodal planning and implementation capabilities. The transit agency, MPO,

and state DOT stakeholders' satisfaction with the overall intermodal planning process was measured on each of these arenas.

Forty-six distinct intermodal planning factors were identified for the six arenas. For example, for the "Leadership support for intermodalism" arena, the intermodal planning factors included "visible leadership support for intermodal planning and decision-making," and "fostering a vision and goals that encompass intermodalism." Stakeholder perceptions of performance on each of these intermodal planning factors was also measured by the survey.

LEVERAGE ANALYSIS

Analysis of Net Impression survey data is a multi-stage process. Focusing first on the arenas, the Net Impression model determines how each arena contributes to overall net impression of the intermodal planning process. Second, within each arena, the model calculates how each intermodal planning factor contributes to overall satisfaction with the arena. Leverage analysis is used to quantify the relative payoff to making changes to the planning process among and within arenas.

For purposes of illustration, Figure D-1 shows hypothetical data to illustrate how leverage analysis works for an arena. The real data for these figures would come directly from the Net Impression survey of transit agency, MPO and state DOT stakeholders.

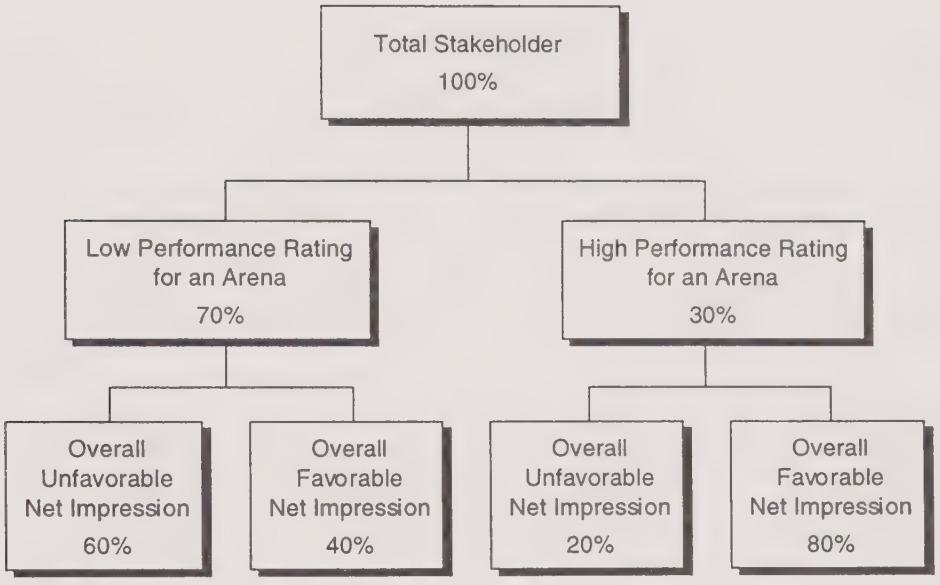
As described above, stakeholders are divided into those rating the overall intermodal planning process "low" in the arena (70% in the illustration) and those rating intermodal planning under ISTEA "high" (30%). Of those rating intermodal planning under ISTEA low, 60% have an overall unfavorable net impression of intermodal planning, and 40% have a favorable net impression. As we might expect, the picture is much more favorable for those rating the intermodal planning process high in the arena -- 80% have an overall favorable net impression, while just 20% have an unfavorable net impression. Thus, the percent of <u>all</u> stakeholders with an overall favorable net impression of the company is:

$$(.70 \times .40) + (.30 \times .80) = .52, \text{ or } 52\%$$

To calculate the leverage score for this arena, we use a sensitivity analysis calculation. We model "moving" a certain percent of stakeholders rating the intermodal planning process "low" on this arena to a "high" performance rating. Figure D-2 illustrates this with the percent being moved from low to high set at 50% (this number is arbitrary and will not affect the relative contribution of each arena to net impression as long as the same improvement percent is applied to each arena in the analysis). Now the overall favorable net impression of the company is:

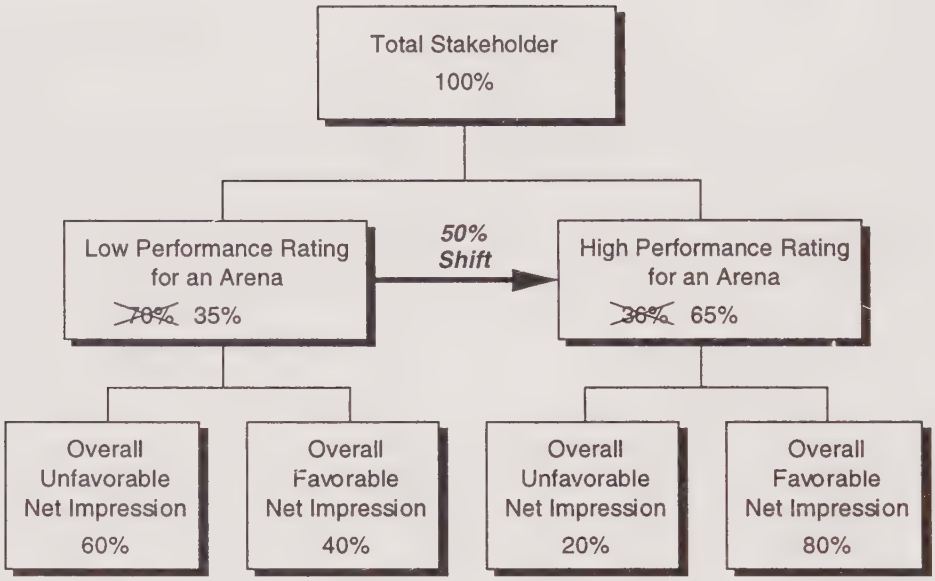
$$(.35 \times .40) + (.65 \times .80) = .66, \text{ or } 66\%$$

Figure D-1
Current Net Impression



Net Impression = (70% x 40%) + (30% x 80%) = 52%

Figure D-2
Enhanced Net Impression



Net Impression = (35% x 40%) + (65% x 80%) = 66%

Thus, the leverage score is 14%, representing the increase of 14 percentage points over the initial net impression of 52% shown in Figure D-1. (Note that leverage analysis assumes that, among stakeholders giving a low or high rating to an arena, the percentages holding overall favorable and unfavorable impressions of intermodal planning remain the same.) In a similar manner, leverage scores are calculated for each of the other arenas in order to complete the leverage analysis at the arena level.

Exactly the same procedures are used within each arena to determine the relative contribution of each intermodal planning factor to the stakeholder's satisfaction with arena performance.

Leverage is a summary measure that addresses the key question in service quality improvement: "Where will improvement have the greatest affect on Net Impression?" It takes into consideration both the level of satisfaction with intermodal planning performance in a specific arena (or intermodal planning factors) and the relative "importance" of that arena to the stakeholder. (As used here, "importance" can also be read as stakeholder "sensitivity" to changes in arena and/or intermodal planning factor performance.) Thus, a particular arena will contribute more heavily to overall net impression, to the extent that stakeholders are less satisfied with performance in that arena than in others, and/or that arena is more sensitive to changes as evidence by the experience of those completing the survey.

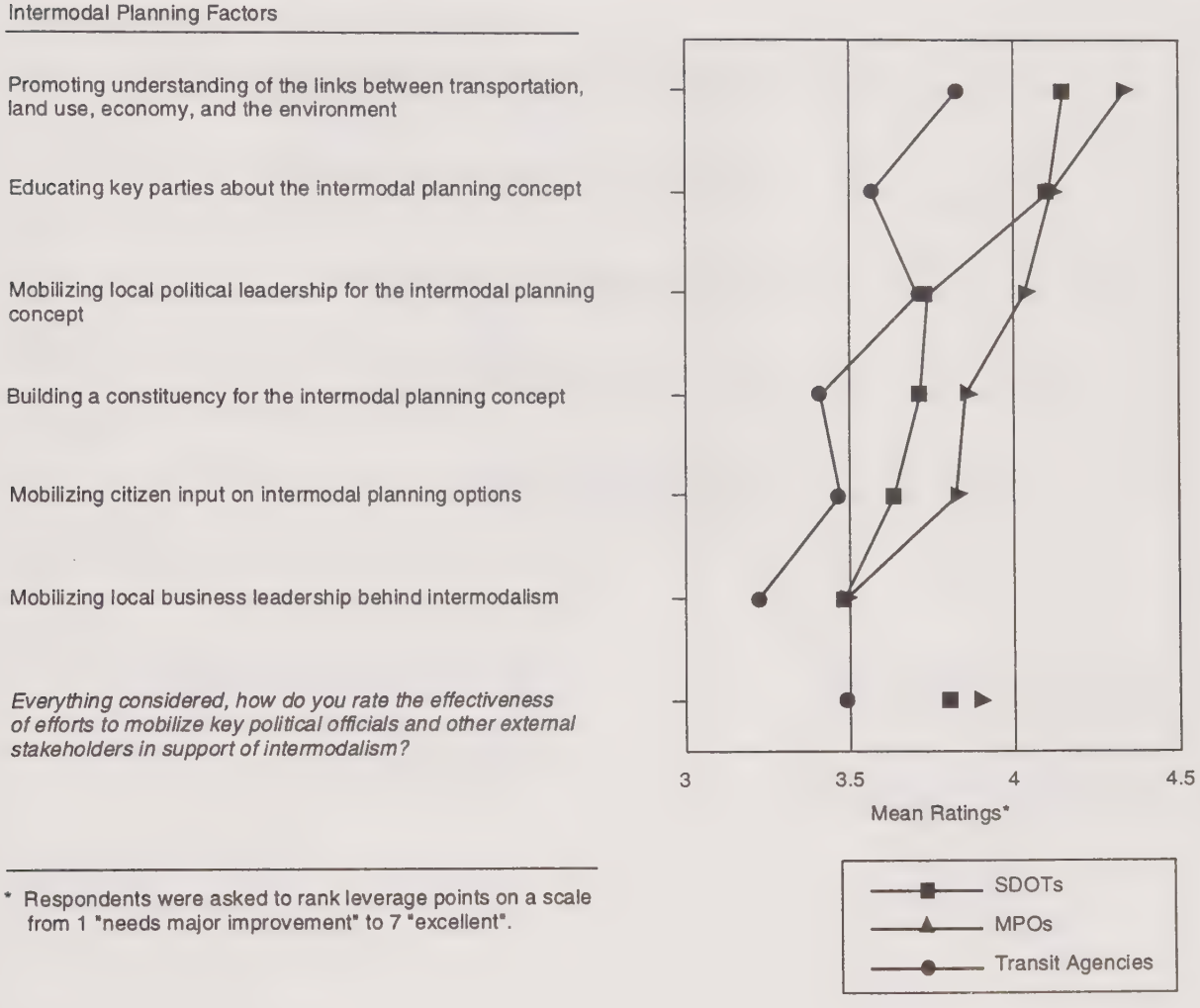
At both the arena and intermodal planning factor levels, the satisfaction component of Net Impression is taken directly from survey questions concerning performance. So, in the Figure D-1 illustration, 30% of the stakeholders surveyed are satisfied with the intermodal planning performance in the arena. The importance rating for each arena is derived from the data by comparing overall net impression for those stakeholders with a "high" performance rating on that arena to those stakeholders with a "low" performance rating -- the bigger the difference, the more important the arena is relative to the other arenas. Once again, the same analysis applies to the intermodal planning factors within each arena.

APPENDIX E

MEAN SATISFACTION RATINGS AND LEVERAGE SCORES FOR NATIONAL SURVEY

Figure E-1
Stakeholder Satisfaction: Mean Ratings

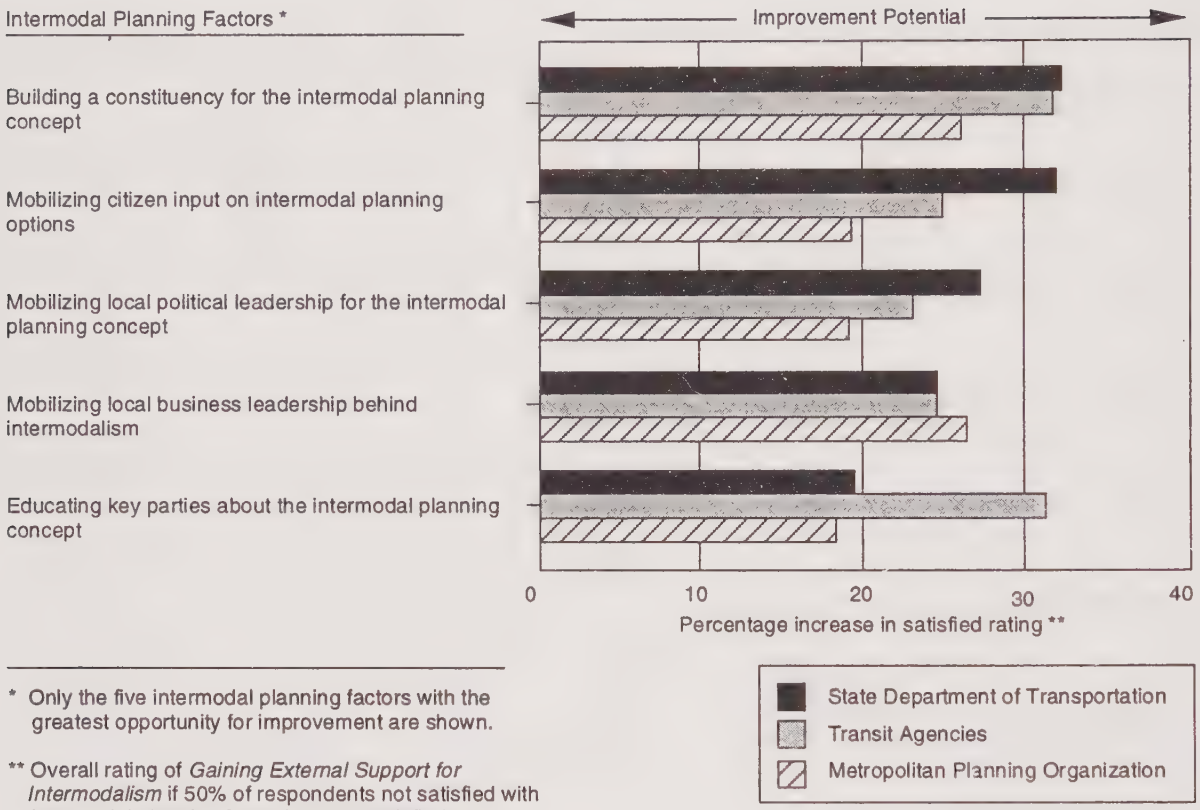
Gaining External Support for Intermodalism


Intermodal Planning Factors
Promoting understanding of the links between transportation, land use, economy, and the environment
Educating key parties about the intermodal planning concept
Mobilizing local political leadership for the intermodal planning concept
Building a constituency for the intermodal planning concept
Mobilizing citizen input on intermodal planning options
Mobilizing local business leadership behind intermodalism
Everything considered, how do you rate the effectiveness of efforts to mobilize key political officials and other external stakeholders in support of intermodalism?
3
3.5
4
4.5
Mean Ratings*
SDOTs
MPOs
Transit Agencies

* Respondents were asked to rank leverage points on a scale from 1 "needs major improvement" to 7 "excellent".

Figure E-2
Improvement Opportunities: Leverage Analysis

Gaining External Support for Intermodalism


Intermodal Planning Factors *
Improvement Potential
Building a constituency for the intermodal planning concept
Mobilizing citizen input on intermodal planning options
Mobilizing local political leadership for the intermodal planning concept
Mobilizing local business leadership behind intermodalism
Educating key parties about the intermodal planning concept
0
10
20
30
40
Percentage increase in satisfied rating **
State Department of Transportation
Transit Agencies
Metropolitan Planning Organization

* Only the five intermodal planning factors with the greatest opportunity for improvement are shown.

** Overall rating of *Gaining External Support for Intermodalism* if 50% of respondents not satisfied with intermodal planning factor became satisfied.

Figure E-3
Stakeholder Satisfaction: Mean Ratings

Intermodal Planning and Implementation Capabilities

Intermodal Planning Factors

Skills in managing public involvement

Skill in recognizing local barriers and hurdles to intermodalism

Training for planning staff regarding the intermodal planning concept

Skills in planning appropriate intermodal projects

Ability to plan a transportation system aimed at improving the movement of people and goods as opposed to moving vehicles

Moving from philosophical support of intermodalism to an action plan

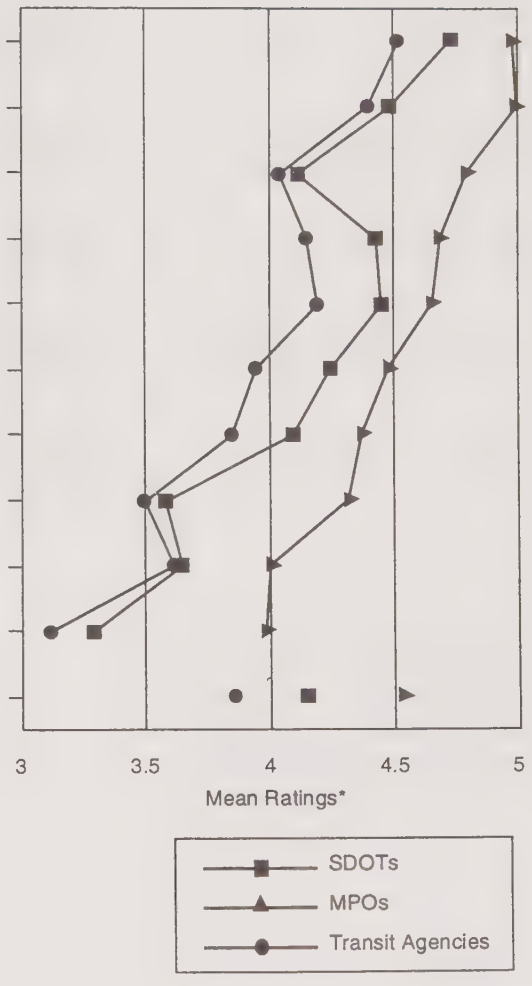
Processes for resolving conflicts and disagreements

Formal education of planning staff on intermodal planning opportunities

Clear delineation of roles and responsibilities for intermodal projects

Amount of staff resources available for intermodal planning

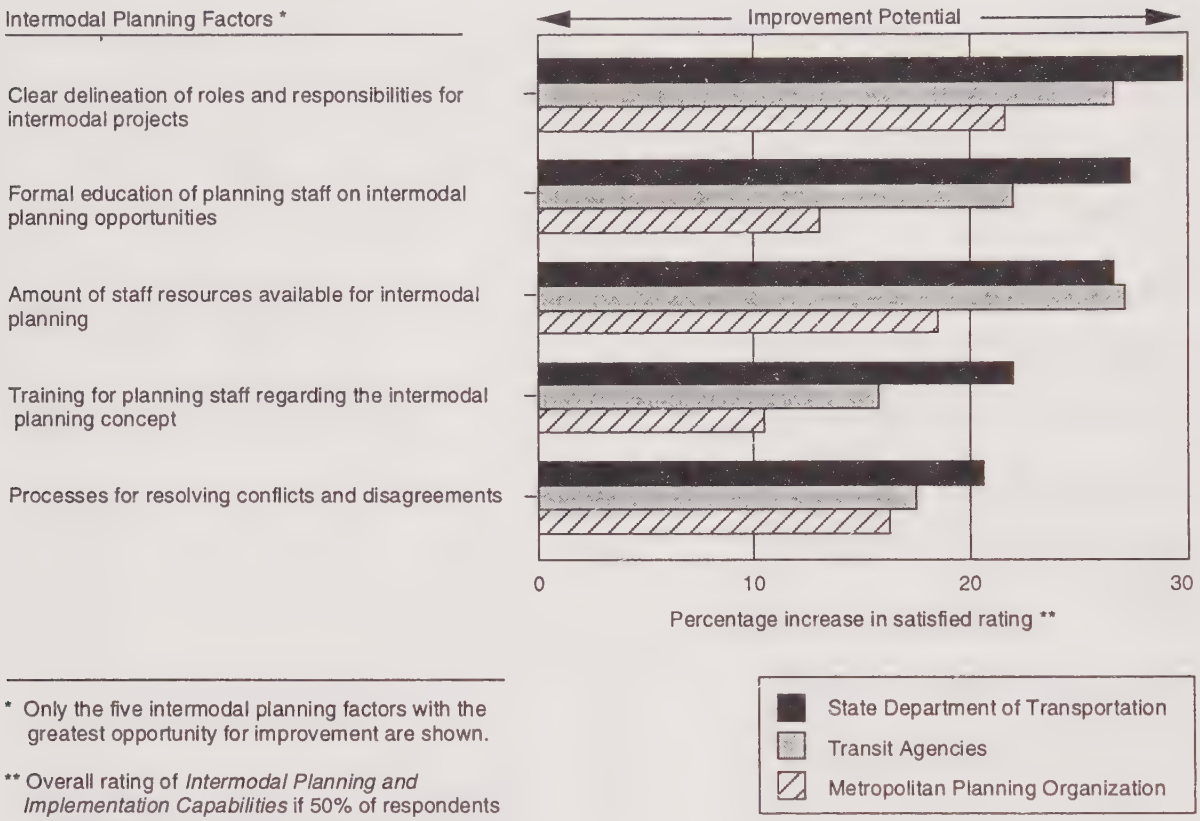
Everything considered, how do you rate your organization's intermodal planning and implementation capabilities?



* Respondents were asked to rank leverage points on a scale from 1 "needs major improvement" to 7 "excellent".

Figure E-4
Improvement Opportunities: Leverage Analysis

Intermodal Planning and Implementation Capabilities

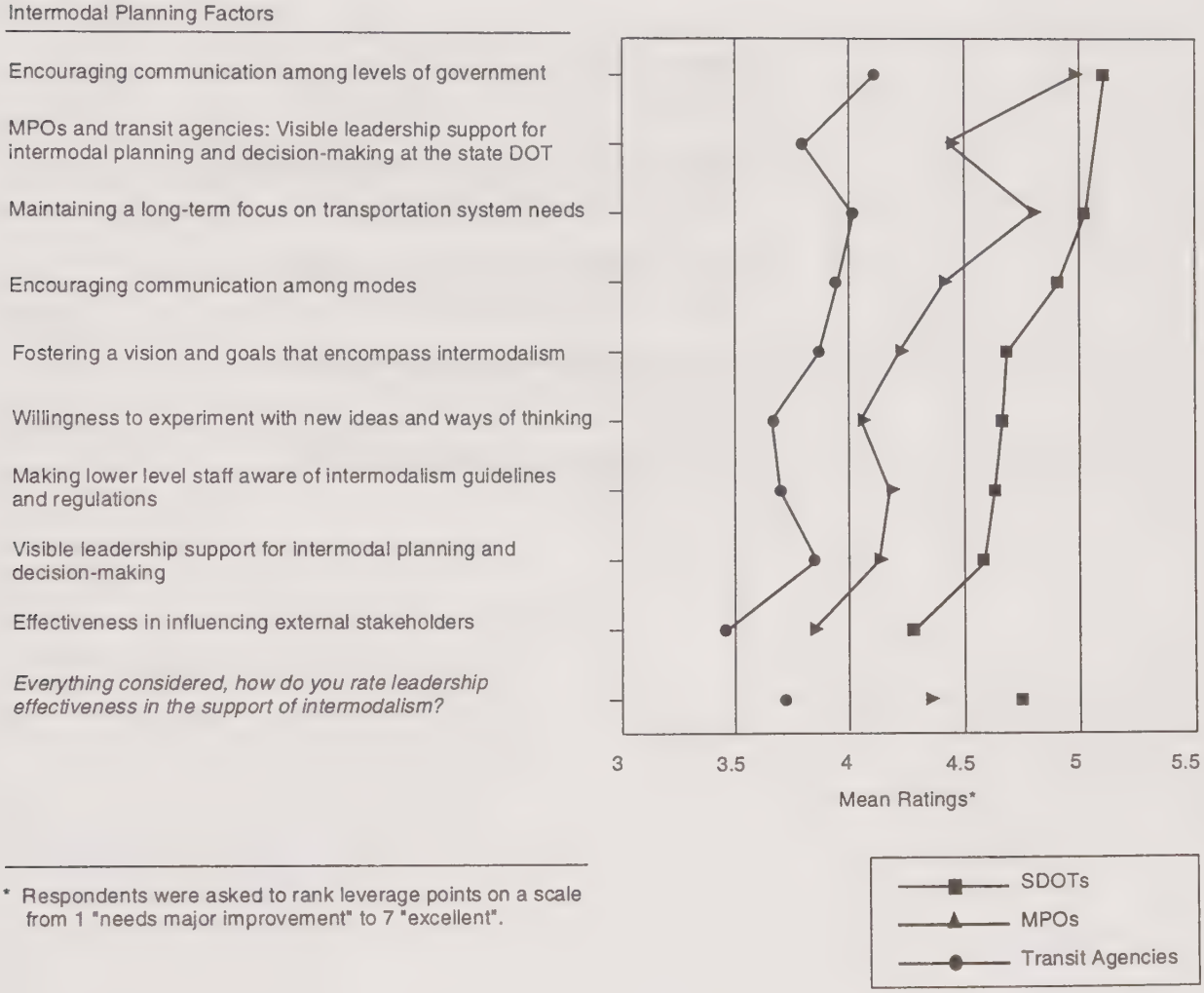

Intermodal Planning Factors *
Improvement Potential
Clear delineation of roles and responsibilities for intermodal projects
Formal education of planning staff on intermodal planning opportunities
Amount of staff resources available for intermodal planning
Training for planning staff regarding the intermodal planning concept
Processes for resolving conflicts and disagreements
0
10
20
30
Percentage increase in satisfied rating **
State Department of Transportation
Transit Agencies
Metropolitan Planning Organization

* Only the five intermodal planning factors with the greatest opportunity for improvement are shown.

** Overall rating of *Intermodal Planning and Implementation Capabilities* if 50% of respondents not satisfied with intermodal planning factor became satisfied.

Figure E-5
Stakeholder Satisfaction: Mean Ratings

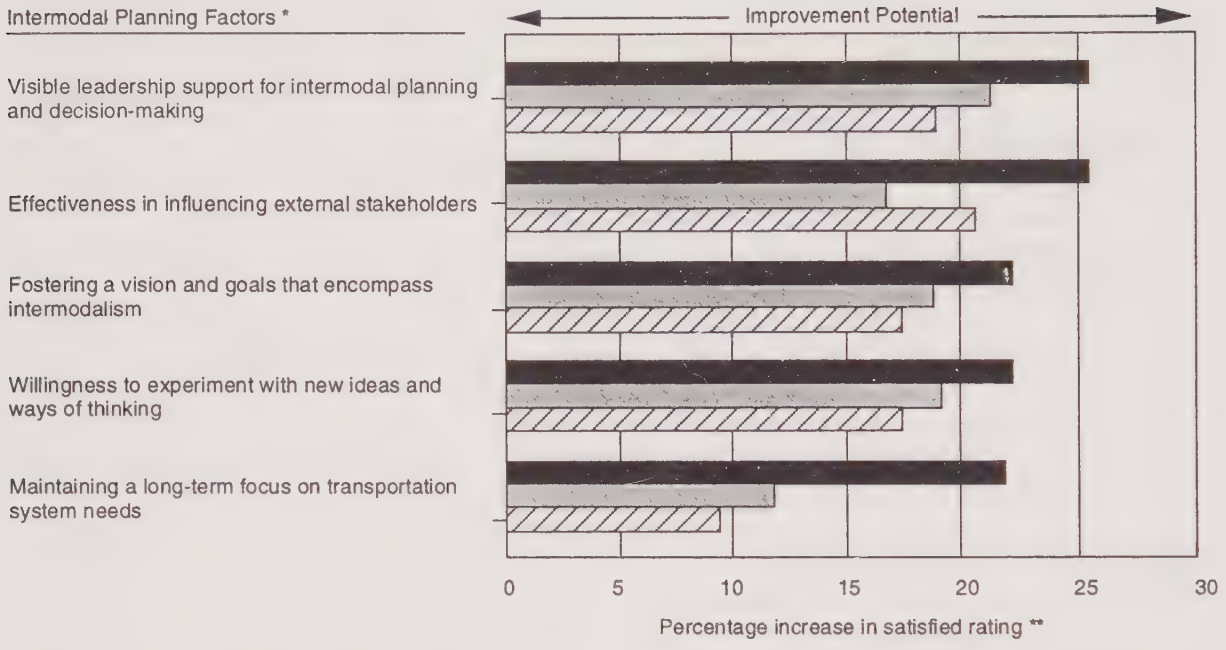
Leadership Support for Intermodalism


Intermodal Planning Factors
Encouraging communication among levels of government
MPOs and transit agencies: Visible leadership support for intermodal planning and decision-making at the state DOT
Maintaining a long-term focus on transportation system needs
Encouraging communication among modes
Fostering a vision and goals that encompass intermodalism
Willingness to experiment with new ideas and ways of thinking
Making lower level staff aware of intermodalism guidelines and regulations
Visible leadership support for intermodal planning and decision-making
Effectiveness in influencing external stakeholders
Everything considered, how do you rate leadership effectiveness in the support of intermodalism?
3
3.5
4
4.5
5
5.5
Mean Ratings*
SDOTs
MPOs
Transit Agencies

* Respondents were asked to rank leverage points on a scale from 1 "needs major improvement" to 7 "excellent".

Figure E-6
Improvement Opportunities: Leverage Analysis

Leadership Support for Intermodalism

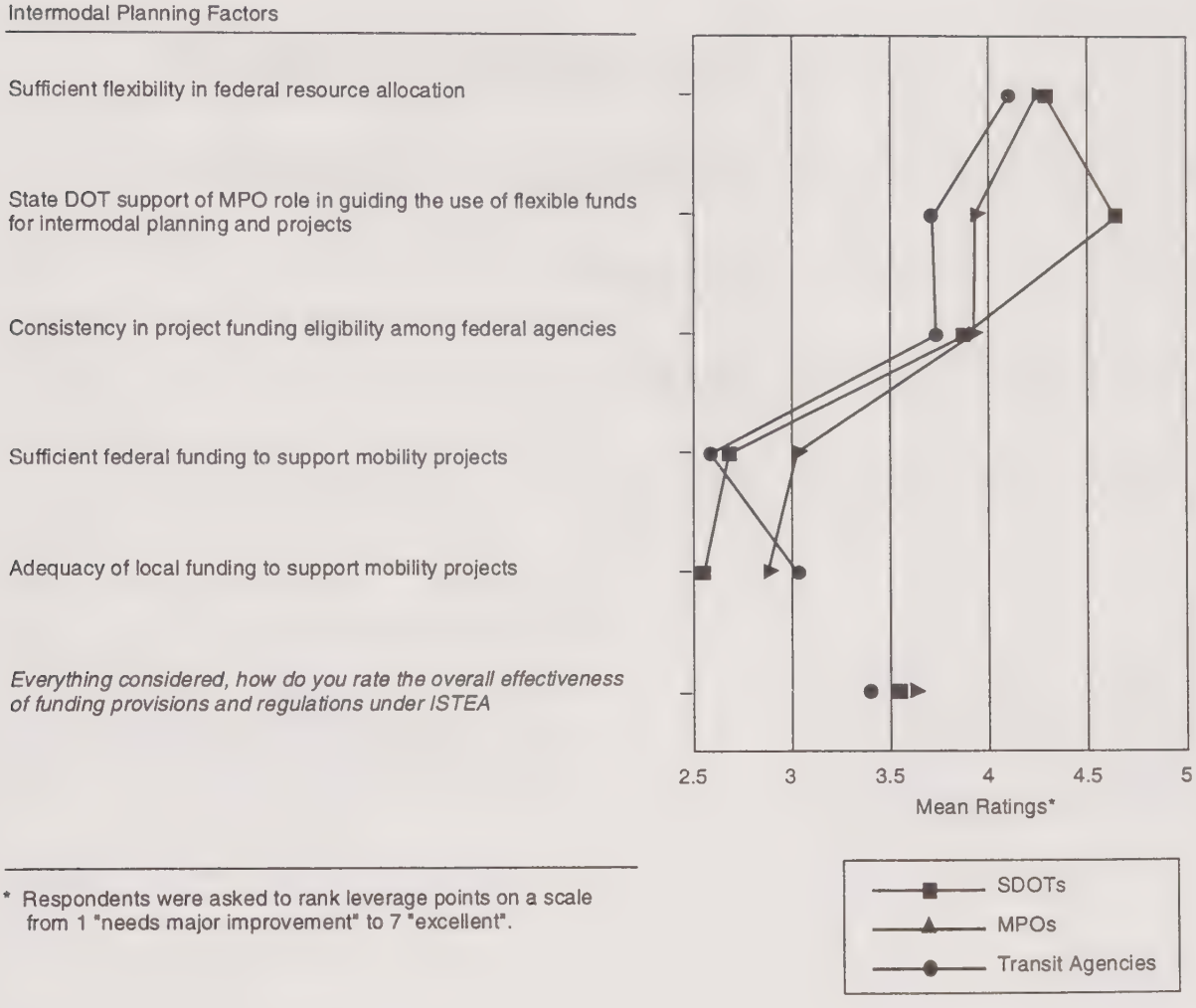


* Only the five intermodal planning factors with the greatest opportunity for improvement are shown.

** Overall rating of *Leadership Support for Intermodalism* if 50% of respondents not satisfied with intermodal planning factor became satisfied.

Figure E-7
Stakeholder Satisfaction: Mean Ratings

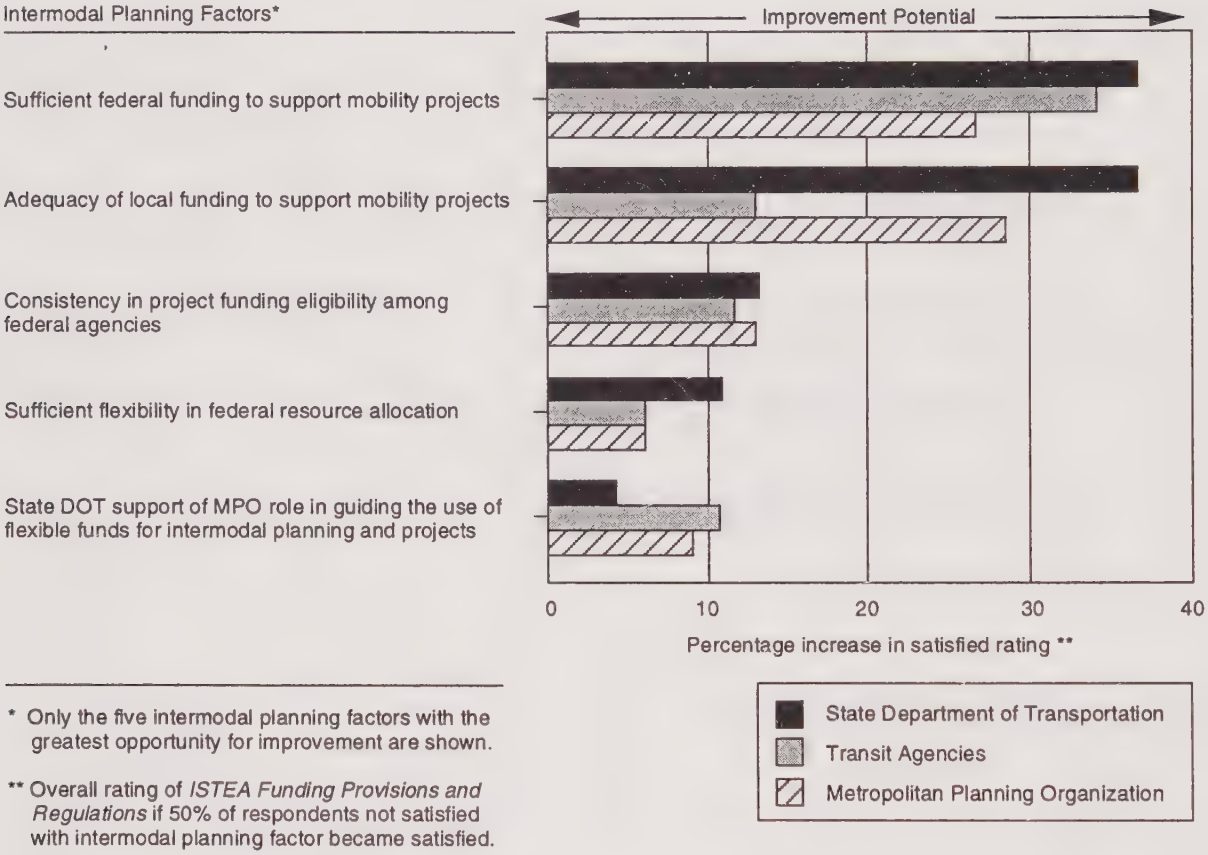
ISTEA Funding Provisions and Regulations


Intermodal Planning Factors
Sufficient flexibility in federal resource allocation
State DOT support of MPO role in guiding the use of flexible funds for intermodal planning and projects
Consistency in project funding eligibility among federal agencies
Sufficient federal funding to support mobility projects
Adequacy of local funding to support mobility projects
Everything considered, how do you rate the overall effectiveness of funding provisions and regulations under ISTEA
2.5
3
3.5
4
4.5
5
Mean Ratings*
SDOTs
MPOs
Transit Agencies

* Respondents were asked to rank leverage points on a scale from 1 "needs major improvement" to 7 "excellent".

Figure E-8
Improvement Opportunities: Leverage Analysis

ISTEA Funding Provisions and Regulations


Intermodal Planning Factors*
Improvement Potential
Sufficient federal funding to support mobility projects
Adequacy of local funding to support mobility projects
Consistency in project funding eligibility among federal agencies
Sufficient flexibility in federal resource allocation
State DOT support of MPO role in guiding the use of flexible funds for intermodal planning and projects
0
10
20
30
40
Percentage increase in satisfied rating **
State Department of Transportation
Transit Agencies
Metropolitan Planning Organization

* Only the five intermodal planning factors with the greatest opportunity for improvement are shown.

** Overall rating of *ISTEA Funding Provisions and Regulations* if 50% of respondents not satisfied with intermodal planning factor became satisfied.

Figure E-9
Stakeholder Satisfaction: Mean Ratings

Transportation Planning Processes

Intermodal Planning Factors

Providing decision-makers with adequate information

Openness of planning processes to new ideas

Openness of planning processes to new players

Giving equal consideration to the full range of transportation alternatives

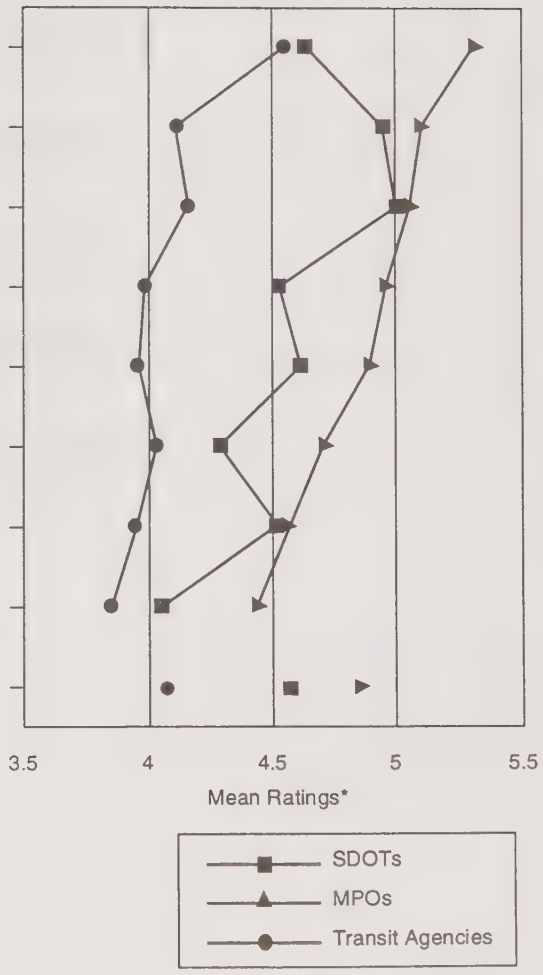
Evaluating transportation plans for land use and air quality impacts

Adopting effective project selection criteria

Effectiveness in incorporating customer concerns into the planning process

Adequate planning and analysis tools to make intermodal decisions

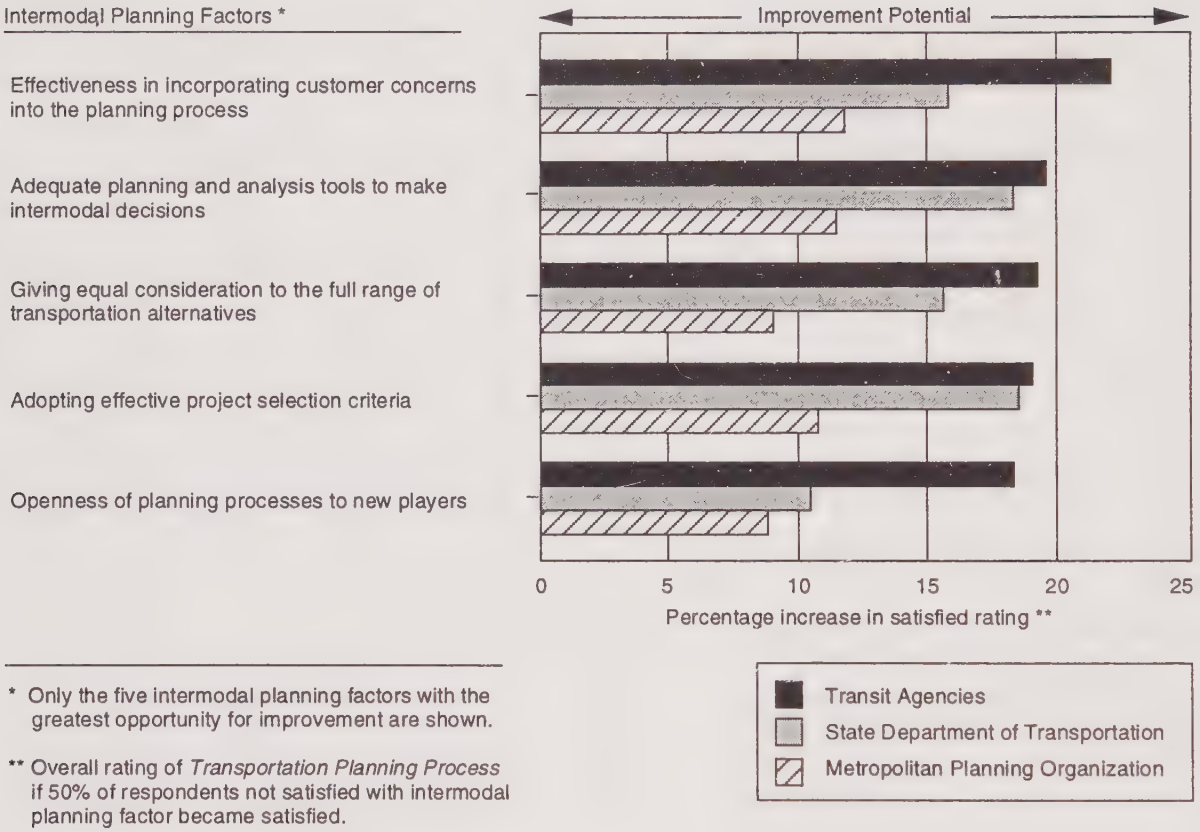
Everything considered, how effective are your current transportation planning processes in incorporating intermodalism?



* Respondents were asked to rank leverage points on a scale from 1 "needs major improvement" to 7 "excellent".

Figure E-10
Improvement Opportunities: Leverage Analysis

Transportation Planning Processes

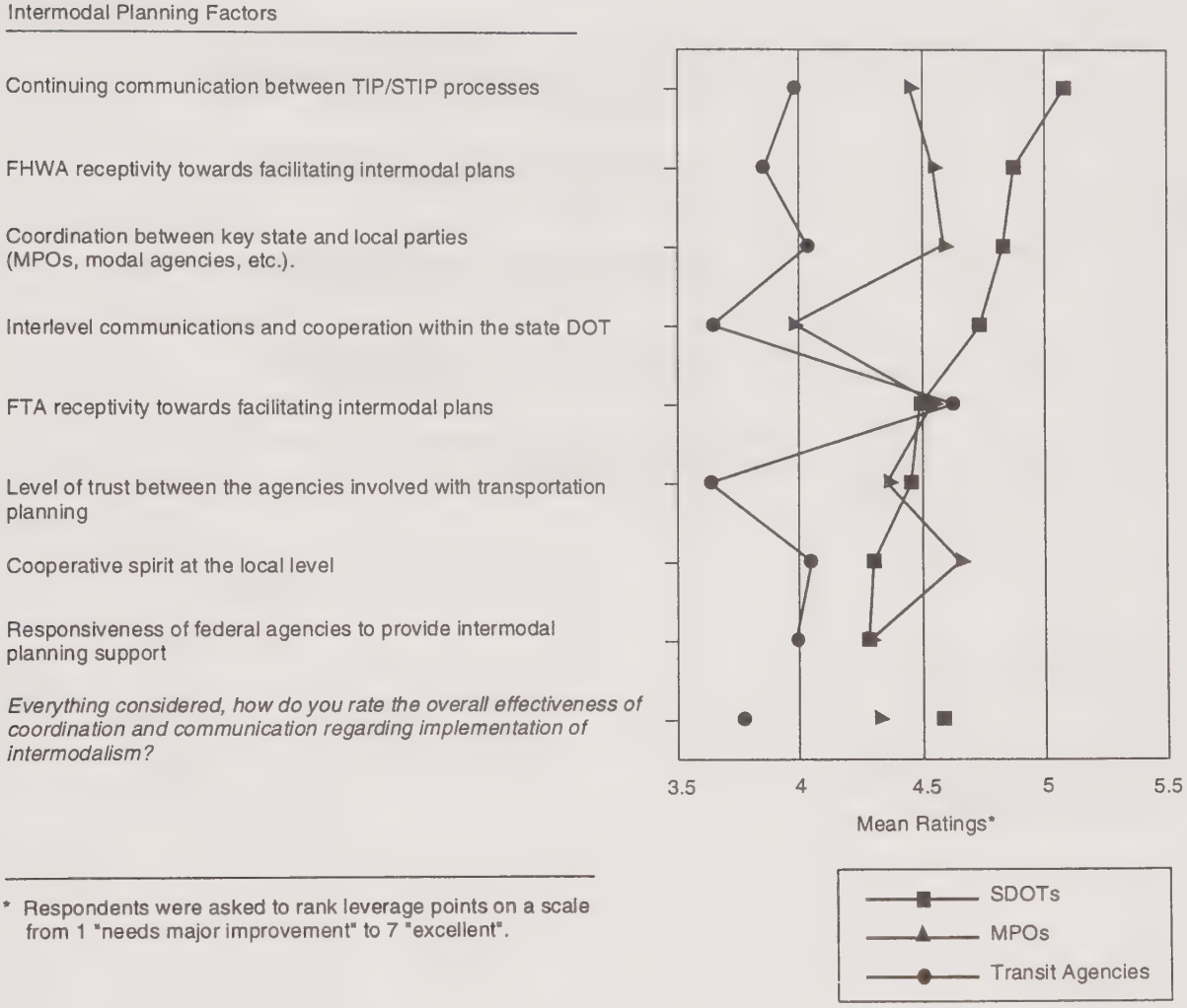


* Only the five intermodal planning factors with the greatest opportunity for improvement are shown.

** Overall rating of *Transportation Planning Process* if 50% of respondents not satisfied with intermodal planning factor became satisfied.

Figure E-11
Stakeholder Satisfaction: Mean Ratings

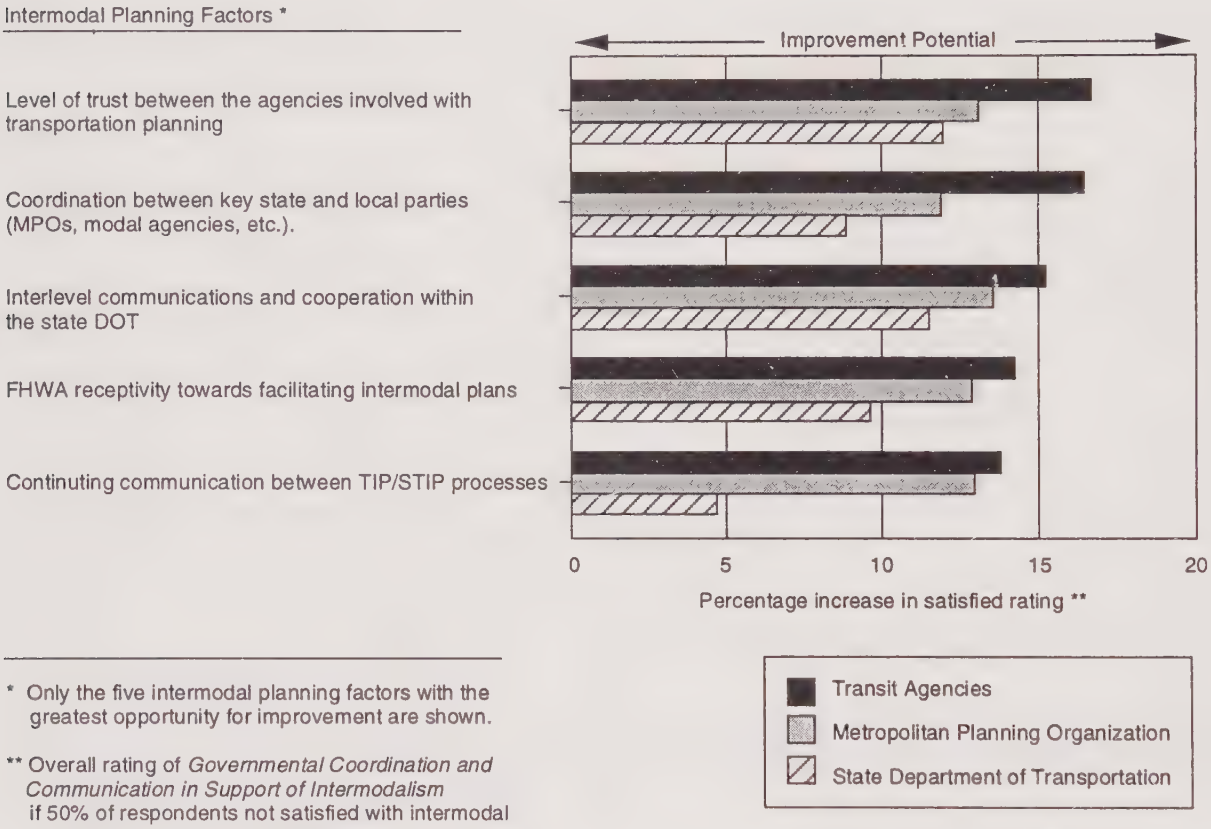
Governmental Coordination and Communication In Support of Intermodalism


Intermodal Planning Factors
Continuing communication between TIP/STIP processes
FHWA receptivity towards facilitating intermodal plans
Coordination between key state and local parties (MPOs, modal agencies, etc.).
Interlevel communications and cooperation within the state DOT
FTA receptivity towards facilitating intermodal plans
Level of trust between the agencies involved with transportation planning
Cooperative spirit at the local level
Responsiveness of federal agencies to provide intermodal planning support
Everything considered, how do you rate the overall effectiveness of coordination and communication regarding implementation of intermodalism?
3.5
4
4.5
5
5.5
Mean Ratings*
SDOTs
MPOs
Transit Agencies

* Respondents were asked to rank leverage points on a scale from 1 "needs major improvement" to 7 "excellent".

Figure E-12
Improvement Opportunities: Leverage Analysis

Governmental Coordination and Communication In Support of Intermodalism


Intermodal Planning Factors *
Improvement Potential
Level of trust between the agencies involved with transportation planning
Coordination between key state and local parties (MPOs, modal agencies, etc.).
Interlevel communications and cooperation within the state DOT
FHWA receptivity towards facilitating intermodal plans
Continuting communication between TIP/STIP processes
0
5
10
15
20
Percentage increase in satisfied rating **
Transit Agencies
Metropolitan Planning Organization
State Department of Transportation

* Only the five intermodal planning factors with the greatest opportunity for improvement are shown.

** Overall rating of *Governmental Coordination and Communication in Support of Intermodalism* if 50% of respondents not satisfied with intermodal planning factor became satisfied.

APPENDIX F

SUMMARY OF THREE IMPLEMENTATION FORUMS

APPENDIX F: IMPLEMENTATION FORUMS

The following are detailed descriptions of the three implementation forums conducted: 1) along the Austin-San Antonio Corridor in Texas; 2) in the Albuquerque, New Mexico region; and 3) in the Sunnyside Yard intermodal facility in Queens, New York.

OVERVIEW OF IMPLEMENTATION FORUM FORMAT

As discussed in Chapter 2, the research team received 26 inquiries for hosting the implementation forums. The three implementation forum sites were selected by the research panel based on recommendations from the research team. The primary criteria used in the selection of the candidate sites by the researchers included:

1. Experience and interest of the site in seriously pursuing intermodal objectives as stated in ISTEA.
2. Identification of barriers in the site's pursuit of intermodal activities.
3. Identification of ISTEA-related objectives that the site would like to address and achieve.
4. Suitability of the site and issues addressed for transferability to other transportation and regional planning agencies.
5. Enthusiasm by the host agency to assist in organizing the implementation forum and eliciting participation of appropriate individuals from stakeholder agencies.

Each implementation forum was conducted over a two-day period. The host provided a list of prospective participants and the research team sent out letters of invitation. The size of the invitation list varied depending on the objectives of the host. Each forum included a technical group and a decision/policy-maker group. The technical group generally included a mix of senior and middle management staffs from the transit agency, cities, counties, MPO, state DOT, U.S. DOT regional offices, and relevant private sector interests. The decision-maker/policy maker group generally included elected officials, relevant planning and transportation commissioners, general managers, and top level staff from other government agencies.

A local survey was sent, with each invitation package, both to the technical and policy-maker groups to help the research team understand local issues and priorities. The format and agenda for the two-day sessions were developed with the forum host and varied from site to site. In general, the following components were included in all forums:

- Review of local and national surveys
- Generate issues (small groups)

- Prioritize issues
- Define action planning working groups (research team)
- Action planning session (small groups)
- Group summary report

AUSTIN-SAN ANTONIO CORRIDOR, TEXAS

Implementation Forum Objectives

The objective of the forum was to develop an intermodal transportation planning process and to explore decision-making strategies to serve as a model for projects in the Austin-San Antonio corridor. The forum specifically focused on two intermodal transportation planning issues that were identified in the Austin metropolitan area long range transportation plan. These issues involved: (1) the investigation of the potential for relocating the Union Pacific freight rail line to the State Highway (SH) 130 corridor and the intermodal aspects of this corridor; and (2) the exploration of the intermodal potential for re-use of the existing Union Pacific rail right-of-way between Austin and San Antonio.

Austin-San Antonio Corridor
Implementation Forum Participants

The Austin-San Antonio corridor implementation forum was held on June 21-22, 1995. The forum was hosted by Ed Collins from the Texas Department of Transportation, Michael Aulick from the Austin Transportation Study, and Ernie Martinez from Capital Metro in Austin.

The forum was attended by over 50 policy makers and technical staff. Representatives from the Texas Department of Transportation, Austin and San Antonio Metropolitan Planning Organizations, Capital Metro and VIA Transit Authorities, business groups including the Union Pacific Railroad and Austin Cargo/Port Development Commission, and citizens comprised some of the more than 35 attendees of the technical group. Policy makers attending the last half day of the two-day session included former U.S. Congressman J.J. "Jake" Pickle, State Legislators, city councilpersons, regional representatives from the Federal Highway Administration, and a representative from the Texas Turnpike Authority.

The research team conducted a follow-up session with the Technical Group on September 27, 1995, in San Marcos in the offices of the Greater Austin-San Antonio Corridor Council.

Background

As shown in Figure F-1, Austin and San Antonio are separated by approximately 80 miles. Interstate 35 is the major freeway that connects the two metropolitan areas. A single track rail line owned by Union Pacific also operates in the corridor.

The Austin Metropolitan Area Transportation Plan (AMATP) incorporates recommendations and guidance for several long range projects which are currently in different planning stages. Two projects which have been debated for over ten years are: (1) the development of a new location freeway (State Highway 130) that could serve as a reliever parallel route to Interstate Highway 35; and (2) the development of a passenger light rail system for the Austin area. Each of these projects have a common link with a proposal to study the possible relocation and re-use of the existing Union Pacific rail line which currently bisects the Greater Austin Metropolitan Area as well as several communities between Austin and San Antonio.

Several growth factors have provided the impetus to consider the development of a major intermodal transportation corridor between Austin and San Antonio. Briefly, these factors include:

- Population and traffic have continued to grow rapidly. Population growth has been 5% a year in Austin and is projected, in the Regional Transportation Plan, to continue at this rate until 2020. Austin is projected to grow from 660,000 to 1.3 million by 2020. For the eight counties along the corridor, the high growth scenario projects a population increase from 2.15 million in 1990 to 3.81 million in 2020. On I-35, the main artery between San Antonio and Austin, a 1% increase in population has been accompanied by a 3-5% growth in traffic. Congestion levels are increasing.

- The North American Free Trade Agreement is greatly increasing truck and rail traffic between Austin and Mexico; NAFTA is creating a 6% to 8% growth in freight traffic per year. This branch of the Union Pacific line is expected to be operating at or near capacity in the near future. The rail line has some major physical constraints which impact the efficiency of operations. These include: (1) two 90-degree turns near the Austin CBD which trains must slow down to negotiate; (2) trains must climb from the river bottom of the Colorado River after leaving the 90-degree turns; and (3) the rail line bisects every major community between Austin and San Antonio where there are relatively few grade separated crossings.

- During the development of the freight element of the AMATP and from intense citizen input, a conclusion was reached that the relocation of the Union Pacific rail line to the SH 130 corridor should be further studied. Though studies will address the issue of operating capacities of the

Figure F-1
Austin-San Antonio Corridor

current alignment of the rail line, other factors play a part in the decision to study the relocation. The relocation would offer an opportunity to provide interregional commuter rail travel between Austin and San Antonio as well as to and from communities situated between the two cities. This relocation would also provide an opportunity to convert a portion of the rail line right-of-way that parallels a major parkway to intercity light rail service and/or to a rubber tire high occupancy vehicle facility.

Currently, the Austin-San Antonio transportation corridor has two ongoing Major Investment Studies (MIS) underway in the Austin area and one planned to begin in 1996 in the San Antonio area. These MISs are being performed to address increasing levels of travel in the corridor. The SH 130 MIS is planned as a multimodal corridor project to serve travel destinations that are not to the Austin or San Antonio business districts, thus acting as a reliever or alternate route to IH 35. The other two MISs, one in Austin, the other in San Antonio, are planned to offer potential solutions to address increasing traffic for travel with destinations in the two metropolitan areas.

As part of the ongoing study, consideration is being given to the practicality of relocating the Union Pacific rail line within the SH 130 corridor as well as including other modes such as high speed rail and passenger light rail. Given the close proximity of the SH 130 corridor to the new Austin International Airport (planned to open in 1998), these studies also will explore the intermodal aspects of integrating various passenger and freight modes with the operations of the airport. Sections of the SH 130 corridor are also being considered by the Texas Turnpike Authority (TTA) as a potential toll road facility.

The Greater Austin-San Antonio Corridor Council is working with Austin and San Antonio metropolitan planning organizations, Capital Metro (Austin) and VIA (San Antonio) transit authorities and the Texas Department of Transportation to develop and fund a study on commuter usage and needs, including an analysis of commuter rail, along the Austin-San Antonio corridor.

Barriers to Intermodal Planning: Research Team Observations

Prior to the implementation forum, there had been little interagency communication on the linking of various transportation projects in the corridor. Project activities were addressed by specific modes with little observed interagency involvement. During the implementation forum breakout sessions, it was apparent that many of these agencies, in general, and staff members, in particular, do not regularly communicate nor coordinate activities. Informally, many participants told the research team that this was the first time such a diverse group of public and private sector interests had been able to discuss the transportation planning issues at the same table.

Prior to the implementation forum, formal or informal leadership for the intermodal planning activities had not emerged. The project was based on formal

long-range plans and other planning activities, but **active** external support was not apparent. The local survey of stakeholders revealed that leadership was the top priority for improving the local intermodal planning process. A statewide agency official summarized the future leadership challenge, "If stakeholders aren't involved in pulling together toward a common goal, transportation planning will continue to be splintered, fragmented and only partially and occasionally successful."

Complexities regarding how to best address multijurisdictional and multiregional projects were challenging and created a barrier for many participants of "just how the project could move forward." Implementation forum participants agreed that the forum process helped to move the planning process forward.

Intermodal Planning Issues and Recommended Actions

At the implementation forum, five working groups were formed to address the five intermodal planning issues that the Technical Group decided was critical to improving the intermodal planning process in the Austin-San Antonio corridor. The following issues and 90-day action plans were developed by the participants at the implementation forum.

1. Visioning Working Group

Issue Description: The Austin-San Antonio transportation corridor project will benefit the state of Texas and its businesses and citizens in numerous ways. It will improve mobility throughout the corridor and provide increased support for NAFTA-related activities. This corridor planning approach is unique to these Texas regions. This project yields a comprehensive approach to transportation planning and land use planning. In the local survey, 95% of the respondents felt that promotion of the links between transportation, land use, economy, and the environment is a high priority action. Consequently, a "vision" relating to the impact these transportation improvements might have upon these two regions in particular and Texas in general is warranted. This vision is integral to the marketing of this project to citizens, businesses, policy makers, and decision-makers at all levels of government. With an overall corridor vision, there will be greater urgency for action.

90-Day Actions

1) Outline a visioning process for the Austin-San Antonio Corridor Project

2. Alternative Funding Working Group

Issue Description: Potential transportation improvements in this corridor will improve mobility for citizens and expand employment opportunities in

the region, including enhancing tourism between the San Antonio and Austin regions. In order to realize this objective, a comprehensive and coordinated funding approach is necessary.

90-Day Actions

1) Inventory current funding rules -- determine which ones require changes
2) Identify potential authorities
3) Explore changing regulations due to ISTEA reauthorization
4) Communicate funding rules and funding plan to COGs, MPOs, and cities

3. Marketing Working Group

Issue Description: Improving the intermodal planning process, to a large degree, rests on the support that can be garnered from elected officials, businesses, communities, citizens, and others. Marketing, therefore, is an integral component to this project's success.

90-Day Actions:

1) Identify target market segments
2) Identify opinion leaders
3) Establish a speakers' group
4) Create a matrix of benefits versus funding to support marketing effort.

4. Data Collection and Analysis Work Group

Description: The multidimensional aspects of this corridor project necessitate the collection and analysis of numerous types of data.

90-Day Actions

1) Coordinate existing planned studies - both private and public
2) Compare study findings to "vision"
3) Identify appropriate personnel within interested agencies - identify agency contact
4) Identify modal split model(s)
5) Define right of way characteristics for modes
6) Define problems in relation to vision in terms of mitigation (e.g., congestion, pollution)

5. Government Structure Working Group

Description: The Austin-San Antonio transportation corridor involves several modes of transportation--both public and private--and will travel through several jurisdictions. In order to be responsive to the comments

and input from each jurisdiction and to coordinate and satisfy the planning, construction, and funding aspects of the project within each jurisdiction, a government structure needs to be defined that can facilitate implementation of the project.

90-Day Actions

1) Work as a team to identify government structure alternatives and models to manage and/or coordinate the numerous aspects of this corridor project. Note the advantages and disadvantages and barriers to each.

2) Present ideas to government forum and to elected officials.

3) Identify entities to participate--state, city, county, railroads, transit, MPOs and stakeholder concerns, and private participation.

4) Identify funding alternatives--revenue taxing authority, public/private partnerships, etc.

5) Determine if legislation is required to establish coordinating government structure or if legislation changes are necessary to facilitate various aspects of the project.

6) Coordinate/expand studies required by federal government (MIS, etc.)

90-Day Progress Report

Significant activity was undertaken during the initial 90-day implementation period by the entire technical group. At the follow-up meeting after the forum, Union Pacific representatives discussed their commuter rail efforts throughout the United States. They also discussed financing strategies that have been implemented in other areas. It was decided that a subcommittee would be formed to outline the steps necessary to study the feasibility of commuter rail in the corridor. Union Pacific also offered to bring a business train to the corridor for a demonstration tour between Austin and San Antonio.

The technical group adopted a new name, Austin-San Antonio Regional Transportation Task Force, and decided to focus short-term efforts on: 1) the demonstration train tour in order to educate local elected officials on the potential for commuter rail in the corridor; 2) developing a working paper on the elements of a passenger rail feasibility study; and 3) planning for an origin/destination study.

Demonstration of Commuter Rail

On November 1, 1995, Union Pacific brought a demonstration train to the corridor for a one-way trip originating in San Antonio with a final destination in

Austin. Intermediate stops were made in San Marcos and New Braunfels. An expanded marketing work group has developed an invitation list of elected officials, community representatives, and state and federal officials who were invited on the train. Members of the task force served as ambassadors on the train. A briefing packet on the corridor demographics, traffic counts, comparable commuter rail systems, and potential benefits was being prepared. The group also developed a question and answer guide. A commuter rail video played continuously on the train. Press releases and a media package were developed. Capital Metro in Austin and VIA Metro in San Antonio provided bus service at both ends of the trips to shuttle passengers to and from the train.

Key players in organizing the demonstration train were Union Pacific, the Greater Austin-San Antonio Corridor Council (primarily responsible for promoting economic development in the corridor local chambers of commerce), VIA Metropolitan Transit, Capital Metro, and TxDOT.

The November 1, 1995, demonstration train event brought forward support from all sectors of the community. Local business, environmental and political leaders indicated commuter rail is a mode of travel which they can full support. Many indicated they desired for the project to proceed as quickly as possible to provide an alternative to travelling in rapidly increasing congestion of IH 35.

Passenger Rail Feasibility

A commuter rail study design subcommittee was also formed. Richard Dickinson of the Texas Transportation Institute developed a working paper entitled "Passenger Rail Feasibility Study," for the Austin/San Antonio corridor. This 20-page paper provides a summary of potential components of a feasibility study with major sections on:

- Summary of existing situation
- Market research
- Ridership forecasts and associated revenues
- Package and express forecasts
- Equipment evaluation
- Infrastructure improvements
- Transportation and economic benefits
- Operation and business plan
- Financial Analysis

The content of the working paper was discussed by representatives of TxDOT (regional office and state multimodal operations), Greater Austin-San Antonio Corridor Council, Austin MPO, Texas Railroad Commission, Capital Metro, VIA Metropolitan Transit, and Union Pacific. The group also summarized all of the studies and previous work that are relevant to intermodal planning in the corridor. In March 1996, the group will make a presentation to a joint meeting of the Austin and San Antonio MPOs. Representatives from the Greater Austin-San Antonio Corridor Council and local governments that lie along the corridor will also be invited.

Origin/Destination Study

The data collection and analysis work group developed an overview of origin-destination methodologies. TxDOT, Capital Metro, and VIA Metropolitan Transit are jointly sponsoring a $200,000 origin/destination license plate mail-back survey that will be conducted in Spring 1996, with the overall study lasting 18 months. The survey will provide important input to the overall intermodal planning efforts in the corridor.

Transferability

The implementation forum for the Austin-San Antonio corridor provided a number of transferable lessons:

- Involvement of private sector interests, in this case Union Pacific Railroad, is very important to the collaborative planning process. Union Pacific involvement provided important legitimacy to the process.

- An ongoing forum, such as the Austin-San Antonio Regional Transportation Task Force, can provide important continuity to interjurisdictional intermodal planning efforts.

- The demonstration commuter rail train provided the opportunity for short-term team building among the diverse agencies involved at the implementation forum. The demonstration train provided an important mechanism for educating local officials and building a constituency for intermodal planning considerations.

- The focus on a short-term project has enabled the various agencies with transportation planning to collaborate on a successful endeavor. The long-range planning effort along the SH 130 corridor may involve a 20-year implementation time line. While these long-range planning efforts are very important, parallel short-term projects can yield some tangible results.

- The working groups formulated for the Austin-San Antonio corridor would appear to have significant applicability to other local ISTEA implementation processes: 1) vision; 2) alternative funding; 3) government structure; 4) data collection; and 5) marketing.

ALBUQUERQUE, NEW MEXICO

Implementation Forum Objective

The Albuquerque Region's Long Range Transportation Plan calls for "shifts from current travel behavior such that there would be a 10 percent reduction of (single occupant) vehicle trips in the future (by 2015) over what could be

anticipated with a continuation of current travel behavior." The primary intermodal issue, according to City of Albuquerque representatives, is the question "How does an urban area establish an effective intermodal plan?"*

Albuquerque, NM Implementation Forum Participants

The Implementation Forum in Albuquerque was held June 26-27, 1995. The primary host of the Albuquerque forum was Bruce Rizzieri, Transit Manager for the City of Albuquerque, which operates the local transit service, Sun Tran. A follow-up implementation forum was held on September 28, 1995.

A total of 167 individuals from a broad spectrum of interests were invited to the first four-hour session, including elected officials, transportation commissioners, planning commissioners, advisory committees on transit for the mobility impaired, and transportation advocates from Bernalillo County, the cities of Albuquerque, Rio Rancho, and the villages of Corrales and Los Ranchos de Albuquerque. Other invitees included staff and the public involvement committees from the MPO, the New Mexico State Highway & Transportation Department (at all levels), state elected officials, and FTA and FHWA. A total of slightly more than 50 attended.

A follow-up action planning group consisting of 12 individuals attended the three-hour morning session on June 27, 1995.

Background

The Albuquerque area is the nation's 77th largest metropolitan area and the city itself is the 36th largest municipality with a population of 420,000. The metropolitan area now has a population above 600,000. Within the city, predominant population densities are low, slightly below average densities in Houston and slightly above those in Phoenix. Physically, Albuquerque and the surrounding environs are split by the Rio Grande River.

The central business district is relatively small with employment of about 20,000, with most new employment growth in the suburbs. An indication of new employment growth is symbolized by Intel Corporations' recent investment of $1 billion in new plant and equipment in suburban Rio Rancho, immediately north of Albuquerque. However, with the intersection of I-25 and I-40 near the center of the City, Albuquerque is the state's transportation center. It is the only

*Letter from Bruce Rizzieri, City of Albuquerque, Transit and Parking Department, Planning Section Head, April 18, 1995.

community in New Mexico with both freight and passenger services provided by each mode serving the city: air, rail and highway.

Bernalillo County is presently designated an air quality non-attainment area for carbon monoxide emissions, with two thirds of the emissions contributed by mobile sources. During the winter months "brown clouds" exist.

A major Transportation Evaluation Study is currently underway in Albuquerque. The project work scope succinctly summarizes the transportation issues facing the community:

- "the relationships among the land-use pattern, the grid-based street network, and the provision of effective transit;
- improving unattractive pedestrian conditions;
- the strategic choices between increasing transportation supply (transit and/or street capacity) and managing demand for transportation (transportation demand management);
- the strategic choices concerning improving the effectiveness of transit to achieve goals, objectives, and policies; and
- reducing traffic intrusion in neighborhoods."*

In addition, bridge crossings are very limited and, until recently, lawsuits had prohibited significant bridge crossing improvements as significant growth occurred west of the Rio Grande. The lawsuit has been settled and a new bridge is being constructed.

Barriers to Intermodal Planning: Research Team Observations

Historically, the lack of perceived serious transportation problems has worked against the emergence of the necessary driving force for leadership to plan and implement an intermodal system. Recently, however, the development of a long-range strategy through the ongoing Transportation Evaluation Study process shows promise for developing a needed vision of the future before significant crises occur. The relatively new mayor seems to be providing initial leadership in moving several intermodal planning processes forward. However, there was a perception by participants at the implementation forum that improved leadership is the key to successful intermodal planning efforts.

A questionnaire was sent to all respondents prior to the June 1995 implementation forum. Leadership support for intermodalism was, by far, the

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*City of Albuquerque, "Transportation Evaluation Study, Request for Proposals." April 1994, p. 13.

area identified as having the most opportunity for improvement. The top priority leadership factors were:

- "Visible leadership support for range of transportation alternatives."
- "Maintaining a long-term focus on transportation system needs."

The need for strong leadership was adeptly summarized by the local Chamber of Commerce: "There is currently no individual or organization strongly championing intermodal transportation in Albuquerque." A local elected official provided the following challenge: "Most cities, particularly Albuquerque, simply repeat the mistakes made by other fast growing cities by using old ideas for cures. We need to treat the disease--not just the symptoms--and that calls for imagination, new thoughts, and inclusive involvement."

External support for intermodalism was also a particularly important area for improvement. In fact, the top priority factor noted by 36 of 43 respondents of the local survey was "promoting understanding of the links between transportation, land use, economy, and the environment." A key local staff person summarized the sentiments of many by stating, "a long-term vision based on land use alternatives is critical to multimodal transportation..."

Within the Albuquerque metropolitan area, two pueblos, five governmental entities, and the New Mexico State Highway and Transportation Department have direct jurisdiction over transportation projects. The Middle Rio Grande Council of Governments has not made significant efforts in intermodal planning. Several commenters in the local implementation forum survey mentioned the need for a strengthened MPO. For a recent strategic planning process conducted for MRGCOG, a new report concluded, "Many of those we interviewed, as well as summit meeting participants, cite MRCOG's expertise in transportation planning as one of its strengths; however, they also identify a lack of multi-modal planning as a major weakness."*

The roles and responsibilities for intermodal planning have not historically been well-defined in the Albuquerque region. Therefore, there has not been an effective local intermodal planning process.

Overall cooperation between the state DOT, the MPO, and local government responsible for transportation planning has been relatively high. The region has adopted a consensus process for project selection, with agencies "horse-trading" short-term projects for available resources. Discussion with stakeholders and implementation forum discussions revealed that there is little long-term focus to transportation decisions.

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*Cogan Owens Cogan "Task 2 Report, Recommendations to the Middle Rio Grande Council of Governments." Final Draft Report, July 31, 1995, p. 6.

Priority Intermodal Planning Issues

After presentations on both the national and local survey findings, forum participants broke into eight small group sessions to define the intermodal planning issues that need to be addressed in the Albuquerque region. Each group had a diversified mix of local staff, state representatives, private sector representatives, advisory committee members and elected officials. After about 1.5 hours of group discussion, 30 specific intermodal planning issues were identified by the entire group. Before leaving at the end of the day, each participant was asked to vote for five issues that deserved priority treatment. The following six issues received the most votes:

1. *Long-Term Strategy*. Participants felt that current planning efforts are short-term. Short term plans should be based on a regional plan and lead to long-term objectives. The future planning process needs to decide which infrastructure projects get funded based upon those projects that help achieve long-term objectives.

2. *Develop Regional Development Perspective*. Albuquerque and other entities need to share a common vision. Participants expressed a desire that the vision of the "whole" needs to have preference over the vision of the "special interests."

3. *How Best to Coordinate Land Use and Transportation Decisions*. Forum attendees stressed the need for mixed-use land development. Both land use and transportation regulatory bodies need to consider appropriate transportation and land use decisions.

4. *Mobilize Political Leadership*. To realize the top priority items, the local political leadership needs to be mobilized and make a commitment to a long-term strategy that has regional commitment.

5. *Clarify Roles and Responsibilities for Intermodal Planning*.

6. *How to Address Funding Shortfalls*. There is a need to develop new funding mechanisms. More emphasis should be placed on private/public partnerships. Combine government funding to maximize resources.

Action Planning Session Results

The next day, a follow-up action planning session was held with 12 participants. Based on a request from the group, the session started by defining intermodalism from the perspective of Albuquerque. The focus, the group decided, needs to be on the efficient movement of people, making transit effective, providing land use incentives, and providing high occupancy vehicle facilities. The Regional Plan's call for a 10% reduction in vehicle trips could be a focal point. Adding significant interstate or major arterial capacity is not part of the solution.

After struggling with the top priority list, the action planning group concluded that significant progress could not be made in any of the top priority areas during the research's 90-day follow-up timeframe. The Transportation Evaluation Study, as described previously, would be the appropriate mechanism for developing a long-term strategy, hopefully engaging regional commitment and better land use and transportation coordination. After brainstorming on what could be realistically started during the research time frame, a suggestion was made to develop a specific plan for achieving the 10% reduction in trips by employees working at the city and county government complex. The group suggested that a demonstration project could be developed and pursued during the 90-day period. According to the implementation forum host, there were five reasons why the short-term project was selected:

1. Government should set an example for the community on how an intermodal planning effort can provide transportation and community benefits.

2. If other organizations implement a similar intermodal plan, the Albuquerque area will begin to achieve some of the results that the ISTEA legislation seeks to achieve.

3. Technical teams members believe this project can begin by the first week of December 1995.

4. Civic Plaza is scheduled for 12 months of construction work beginning in January 1996. The underground parking structure will be greatly affected by the construction.

5. Interstate 40 between Coors Boulevard and Sixth Street (adjacent to downtown Albuquerque) will be affected by 30 months of road construction, beginning in January.

Participants decided on a workscope of specific actions including telecommuting, guaranteed ride home, bicycling, carpool incentives, park-and-ride lot development, marketing, and survey development. Different agencies took responsibility for one or more actions that would be incorporated into an overall plan in the next 90 days.

90-Day Progress Report: Intermodal Plan for City and County Complex

The following is a progress report of the efforts to develop an intermodal plan for achieving a 10% reduction in trips by employees working at the city and county government complex. The follow-up session was attended by approximately 20 representatives from the City of Albuquerque, Bernalillo County, Albuquerque Chamber of Commerce, and the New Mexico Highway and Transportation Department.

A detailed implementation schedule was presented and reviewed by the group. Individual working papers were prepared by different members of the City of Albuquerque Transit and Parking Department, including flex-time and tele-commuting options. The letter of support and commitment from the Albuquerque Mayor and the County Commissioner was highlighted as an extremely important launching point. It will provide the impetus for embarking on the necessary marketing campaign and adoption of specific policy recommendations that will be developed as part of the implementation plan. A commuter survey was reviewed, discussed, and approved for distribution. Publicity of the "stretch" goal of 10% reduction in commute trips will provide a tangible objective for the project.

The research team prompted the group to highlight the barriers that the technical group anticipates during implementation. The consensus was that the most difficult barrier will be resistance to behavioral change by the individual commuter. The availability of both alternative work schedule and modal alternatives will help to provide sufficient choice for the commuter.

Progress Report: Addressing Priority Intermodal Planning Issues

Albuquerque is undertaking a number of parallel efforts to address the top priority issues identified in the June implementation forum. These efforts are the result of ongoing efforts by a number of different agencies.

Transportation Evaluation Study

The City of Albuquerque recently retained Parsons Brinckerhoff to conduct a major land use and transportation evaluation study to address the long-term mobility and transportation needs of the City. The City initiated the study for several important reasons:

- to clearly define its sense of direction;
- to accomplish an integrated set of land use\transportation goals and policies; and
- to develop a strategic plan of action to implement a "place image" that will hopefully receive consensus during the course of the plan's development.

As one of the first tasks, the consultant team is developing a "place image" video that will highlight how land use and transportation decisions made in the past have shaped Albuquerque and what will happen if current trends continue. The video will be used to frame informed public involvement including a presentation of the video at a one-and-a-half day town hall workshop that is being co-sponsored by the City and Shared Vision, Inc., a non-profit community organization devoted to comprehensive planning.

The October 20, 1995, agenda provided presentations on land use and transportation connections, as well as a panel discussion of how alternatives have been developed and how they have worked in other communities around the nation. In one-half day break-out sessions, citizens and community leaders were asked what they like about the existing physical form and what changes are anticipated in the future. They were also asked what they like about other communities and what is suitable for implementation in Albuquerque.

The work scope includes a comprehensive assessment of the transportation system as well as a detailed policy and institutional analysis relevant to the current research. A work task will highlight the institutional roles and responsibilities as well as identify how decision-making is influenced by all participants in the process. Ultimately, based on policies and issues identified in earlier tasks, a future "place image" video will be developed using photo simulations that will discuss the pros and cons of alternative futures.

MRCOG Strategic Plan

In a parallel effort, the Middle Rio Grande Council of Governments has just received 20 recommendations designed to clarify the objectives and planning process of the MPO. During the Summer of 1995, the consulting firm of Cogan Owens Cogan (COC) conducted over 75 interviews with 100 leaders in the public and private sectors. A summit meeting was also held shortly after the initial implementation forum where participants (many of whom had attended the implementation forum) were able to discuss candidate approaches for improving the MPO planning process. The report identified several recommended approaches that are currently being reviewed by the COG Board of Directors. Among the relevant recommendations for the present research are:

ACTIVITIES

- Undertake a visioning process that leads to a coordinated land use and transportation program. This recommendation implies that the visioning process currently underway in the City of Albuquerque be extended to the region in order to develop a regional development perspective. This was the second highest priority issue identified at the June implementation forum.

- Address all modes in the transportation planning process. Many individual interviews for the MRGCOG strategic plan cited MRGCOG's expertise in transportation planning as one of its strengths; however, they also identify a lack of multi-modal planning as a major weakness. The report recommends that MRGCOG expand its focus to encompass transit, bicycle, and pedestrian facilities. At present, the report concludes, transit is a "minor element of the MRGCOG's transportation planning agenda."

- Enhance consensus-building and facilitation of regional issues. The report concludes that MRGCOG should take a more proactive approach to facilitating consensus on regional issues and decisions.

STRUCTURAL CHANGES

- Enrich MRGCOG's base of support and regional constituency by involving the private sector and public interest groups, including non-profit organizations, on MRGCOG advisory committees and task forces. A broad-based task force is recommended to involve the private sector in meaningful ways.

- Merge the MPO and RPO transportation planning functions to establish a regional transportation planning program that coordinates the urbanized, urbanizing, and rural portions of the region. At present there are two distinct transportation planning processes for the urban and rural portions of the region.

FUNDING

- MRGCOG should request the state legislature to increase state funding for regional planning. As MRGCOG expands its focus, it should work with legislators to assure that it receives adequate funding to carry out its additional activities.

- With the specter of dwindling federal funds, MRGCOG should, in addition to seeking state funds, explore opportunities for obtaining private funds.

Light Rail Feasibility Study

After a high-capacity corridor study conducted by Parsons Brinckerhoff suggested further study of light rail options, and with significant backing from the Mayor, the City has received a $200,000 grant to study light rail feasibility. The high capacity study made sketch planning ridership estimates based on different transportation and land-use scenarios, and found initial ridership estimates to be significantly below other western U.S. systems.* The City, however, has decided to determine whether any transportation corridors within the urban area can justify the building of a light-rail line within the next 20 years. This project is a cooperative one between the New Mexico State Transportation Authority, the Bernalillo County Transportation Development District, and the City of Albuquerque.

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*Parsons Brinckerhoff, et al, "Albuquerque High Capacity Corridor Study." Final Report, October 1993.

Regional Transit Authority Feasibility Study

Finally, Bernalillo County is studying the feasibility of creating a regional transit authority (RTA) for the Albuquerque region. A recent study has concluded that a RTA is feasible and prudent for the Albuquerque urban area. The next step in the process is the development of a transit service plan for the proposed RTA service area. The City of Albuquerque with cooperation from Bernalillo County, the New Mexico State Highway & Transportation Department, the Middle Rio Grande Council of Governments, and other political entities within the urban area will be developing this service plan during 1996.

Transferability

The challenge facing Albuquerque over the next 20 years is maintaining what most local residents perceive as a high quality of life. The region appears to be at a critical juncture in defining planning and decision-making processes that determine how future land use and transportation decisions are made.

There are a number of transferable lessons that can be learned from the Albuquerque implementation forum and follow-up process:

- In a region without severe congestion and perceived high quality of life, it is difficult to garner much attention to intermodal planning and its benefits. The local transit agency can play an important role in proactively sponsoring forums to discuss and define actions that will utilize intermodal planning as part of a broader strategy to maintain a livable community. While leadership from Albuquerque's Mayor is driving this important communication process, the Sun Tran's Transit Manager has played a very important role in bringing an array of parties together to discuss long-term strategic issues that will impact the intermodal planning process.

- The visioning process that is currently being undertaken by the City of Albuquerque in its Transportation Evaluation Study has the potential for being a model for understanding the critical linkages between future land use decisions and transportation investments.

- The City of Albuquerque is working with Bernalillo County to demonstrate how the Regional Transportation Plan's goal of a reduction of 10% in commute trips can be implemented at a very site specific level. These small steps are important to a wider acceptance of what intermodal planning efforts can be expected to achieve.

QUEENS, NEW YORK

Implementation Forum Objective

This forum provided the opportunity to bring together a variety of technical and policy making officials representing the public and private sectors to discuss the Sunnyside project in the Queens Borough of New York City. The objective of the forum was to develop an action plan that would move the Sunnyside Yard intermodal project into the active planning and decision-making arena. The forum specifically focused on the transportation issues related to the Sunnyside Yard and the potential that the development of Sunnyside Yard offered regarding the integration of land use and transportation planning.

Queens, New York
Implementation Forum Participants

The New York implementation forum was conducted on July 18-19, 1995, in New York City. The hosts were Ray Ruggieri from the New York Metropolitan Transportation Council and Floyd Lapp from the Department of City Planning, City of New York. The New York Implementation Forum was attended by policy makers and technical staff. Representatives from New York State DOT, the New York City Planning Department, Amtrak, the New York Metropolitan Transit Authority, the Port Authority of New York and New Jersey, and the Permanent Citizens Advisory Committee to the Metropolitan Transportation Authority and the Long Island City Business Development Corporation comprised the technical group. Policy makers attending the last half day of the two-day session included the Director of the New York Metropolitan Transit Authority, a Transit Workers' Union local 100, the Transportation Director of the New York City Planning Department, the Director of the New York Metropolitan Transportation Commission, and a representative for Assemblywoman Nolan from Queens.

The follow-up session was held on October 18, 1995, in two sessions. A lunch meeting was conducted with the two project sponsors and the research team attended a community meeting where Sunnyside Yard alternatives were presented as part of the Long Island City Transportation Needs and Opportunities Study.

Sunnyside Project Background

The Sunnyside Yard is located in Long Island City in the Borough of Queens and is composed of 150 acres of below-grade railroad tracks and vacant land utilized by the all of the New York Region's commuter railroads except

Metro-North.* Figure F-2 is an overview of the Sunnyside Yard in relationship to the regional transit services in the New York region.

The Sunnyside Yard project is included in a master plan for the Borough of Queens. This borough has experienced substantial growth over the past 25 years, witnessed by its increasing population and expanding economic centers. Queens presently boasts a population of almost 2 million, making it the second largest borough in New York City and the sixth largest county in America. The borough no longer serves as the bedroom community to neighboring Manhattan. Its principal commercial centers, Long Island City, Flushing, and Jamaica have received significant private and public investment over the past decade and have emerged as regional subcenters of economic activity.

Despite these dramatic developments, the public transportation network in Queens has remained relatively unchanged over the past 50 years. The result is a borough of 112 square miles lacking adequate transportation between its major facilities and centers including the three principal commercial centers, Kennedy, and LaGuardia airports.

Opportunities exist to improve both intra- and interborough transportation: the utilization rate of the 63rd Street subway tunnel (linking Queens and Manhattan) can be doubled, thereby improving the level of service to Manhattan; the convergence of numerous rail lines at Sunnyside Yard provides a potential regional transfer point for passengers; and the unused highway rights-of-way represent potential routes for expanded rail lines.

Sunnyside Yard, located at the edge of the Long Island City central business district, has the potential to serve as the linchpin in the establishment of a regional transportation network. Presently, three major rail services--Amtrak, Long Island Railroad (LIRR), and New Jersey Transit (NJT)--pass through the Yard only to continue on to other destinations with no opportunity to transfer from one mode to another.

The LIRR presently travels through the Sunnyside Yard enroute to the Hunters Point Avenue station farther to the south. NJT trains, after unloading passengers at Penn Station in Manhattan each morning, then travel to the Yard to be stored until needed in the evening. Amtrak also travels through the Sunnyside Yard as part of its Northeast Corridor route. The proximity of these trains as they pass through the Yard provides a real opportunity for passengers to transfer between lines, thereby creating a regional intermodal transportation network.

The Sunnyside Yard's location in Long Island City presents an opportunity in itself due to the area's proximity to Manhattan and its relatively central location within the New York metropolitan area. In addition, the present

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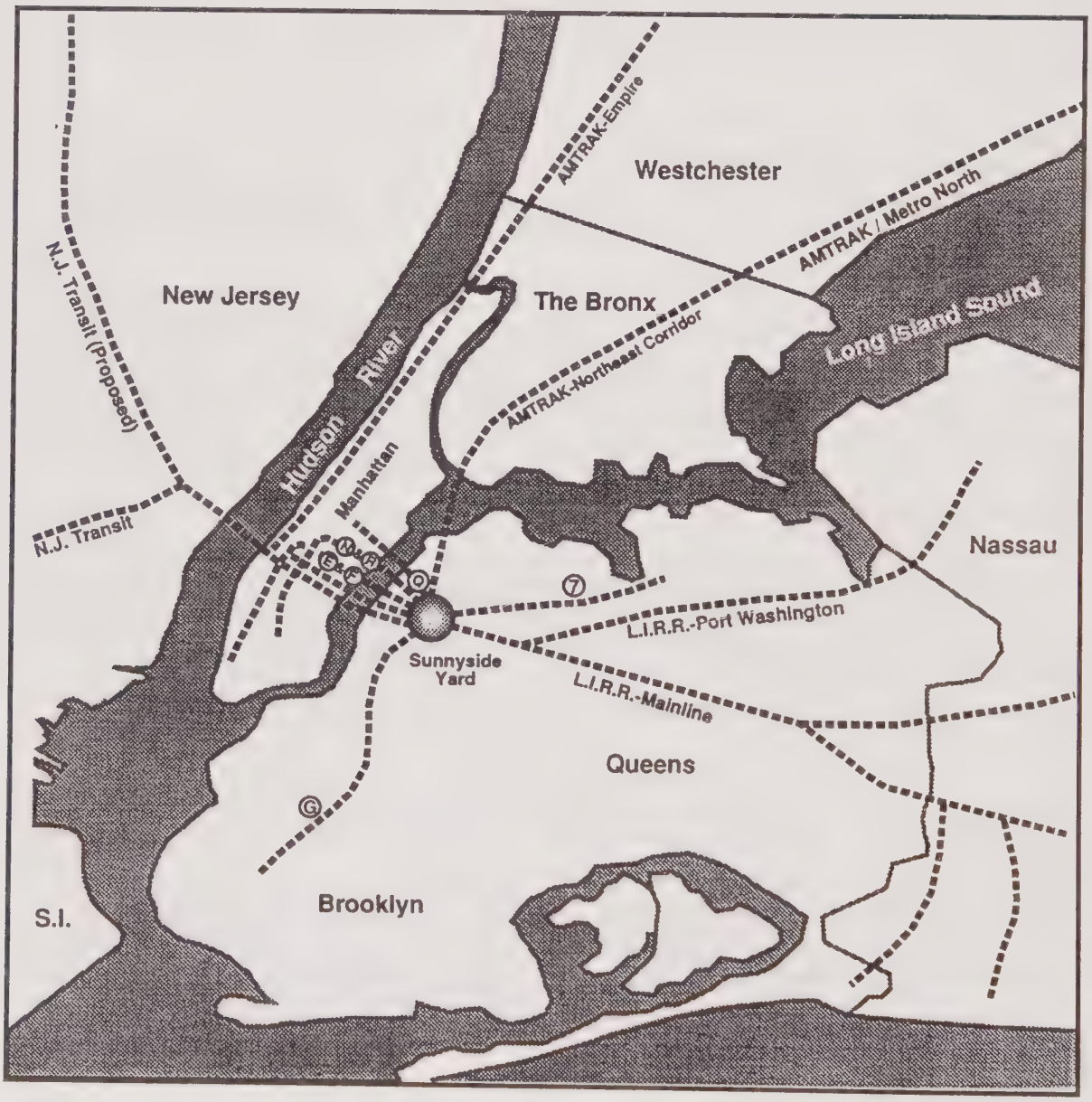
*New York City Department of City Planning, *Plan for Long Island City: a Framework for Development*, Fall 1993, p. i.

Figure F-2
Sunnyside Yard in Regional Transit Service Context



development of Long Island City as a major central business district, serving as a potential extension of the Midtown Manhattan market, makes Sunnyside Yard a logical site for a significant intermodal transportation facility.

Several public agencies and private interests have independently recognized the need for improved transportation and committed substantial economic resources in developing proposals that take advantage of these opportunities. For example, the Port Authority is pursuing plans to link Kennedy and LaGuardia airports with the regional transit network; Amtrak has proposed the development of an intermodal facility to serve as a regional transportation hub; and the Metropolitan Transportation Authority (MTA) has completed design plans for the expanded use of the 63rd Street tunnel.

These proposals are a necessary step toward an improved transportation network. Each proposal, however, identifies only a specific transit need and presents a recommendation that addresses solely that particular requirement. What is absent is a coordinated, comprehensive approach, analysis and solution that looks at transportation on a borough-wide scale.

The value derived from an intermodal transportation system is certainly apparent throughout the New York metropolitan area. The area functions in part due to the vastness of the transportation system, the components comprising the system, and the interrelationship among these components. This proposed project is a good example of the interrelationship between land use development and transportation systems. Numerous agencies, including the State DOT, Metropolitan Transit Authority, several regional agencies, elected officials and members of the business community, recognize the value that could be derived from the development of Sunnyside Yard and implementation of the intermodal transportation facility. The value derived from an intermodal transportation system is certainly apparent throughout the New York metropolitan area. The area functions in part due to the vastness of the transportation system, the components comprising the system, and the interrelationship among these components.

While the benefits of the Sunnyside Yard project are apparent, the numerous elements to consider in defining the plan and the large number of agencies that would be involved in the review and decision to fund the project needed to transform this plan from a concept to reality provide formidable challenges.

Barriers to Intermodal Planning: Research Team Observations

At the July 1995 Implementation Forum, five specific barriers were identified by the research team:

1. Although the concept of the Sunnyside Yard project actually dates back almost 40 years, there has been a general lack of understanding regarding the value of the project and a lack of definition and consensus regarding the components of the project.

2. The lack of internal leadership for this project was apparent. While there is interest in the project, and advocacy by some participants for the project, the lack of overall project leadership was obvious.

3. The lack of external support for the Sunnyside Yard is evident, as well. Business support was mentioned and to a limited degree displayed. Political support was apparent at the Borough level; however, no active external stakeholder support was identified involving New York City officials, state officials, and particularly federal officials.

4. The lack of project definition and the complexities related to land use and transportation have served as forces to stall the progress of this project. Project and process complexities are creating forces causing project inertia. Consequently, staff energies and support have focused on other projects.

5. The number of governmental agencies that need to be involved in the planning and consideration of this project are extensive. Many of the expressed responsibilities of these agencies have been vaguely defined. Observations of the group suggest that understanding and navigating through this myriad of government agencies has been a major cause for the lack of leadership--both internal and external--and consequently, partly responsible for the lack of progress that this project has made over the years.

Intermodal Planning Issues and Recommended Actions

Two action planning work groups defined two major areas on which to focus their efforts to move the Sunnyside Yard project forward:

- Scoping of the Sunnyside Yard project. Preliminary work had already been completed by MTA and by New York City in developing the framework plan for Long Island City. The action plan was intended to scope alternatives in more detail.

- The developing stakeholder action plan intended to identify potential stakeholders and to actively solicit project support. The primary purpose was to identify champions that could move the project forward.

90-Day Progress Report

Since the mid-July 1995 Implementation Forum, two significant meetings were held. First, there was a Long Island City transportation needs assessment meeting that reviewed transportation planning options that could be implemented by 2001. The technical meeting focused on alternative transportation improvements after the 63rd Street connection to Manhattan is completed.

A second meeting discussed the financial estimates for building an East Side terminal in Manhattan, an alternative to the Sunnyside project. The East Side terminal has now been estimated at almost three billion dollars. As our host for this forum, Floyd Lapp said, "The fiscal realities have set in."

At the October 18, 1995, follow-up meeting, which was actually a community meeting in Long Island City, MTA consultant Parsons Brinckerhoff presented a long list of alternative transportation improvement strategies for the Long Island City Area. The next step in the process will be to reduce the number of alternatives to a short list.

There are three primary reasons why the intermodal planning process has moved forward on the Sunnyside Yard Project. Clare Schulman, the Queens Borough president, has provided leadership in moving the Sunnyside Project forward. She has worked with other political leaders and staff to ensure that MTA addresses the issue in a comprehensive and timely manner. Secondly, the Port Authority has encouraged MTA to push forward the Sunnyside Yard concept. Finally, the fiscal realities of the alternative East Side terminal in Manhattan have prompted officials to evaluate other potentially less costly options. The primary driving forces for moving the project forward have been leadership, political pressure, and the need to evaluate financially feasible options.

The July 1995 implementation forum served as a catalyst to intermodal planning in Queens. It helped to resurface the opportunity for the political leaders to champion the Sunnyside Yard Project.

Transferability

The Queens, New York, situation is representative of the challenges most metropolitan areas face in trying to adopt intermodal solutions to their mobility problems. Within these larger, older cities, the challenges stem from trying to coordinate an intermodal solution within an already well-established transportation infrastructure and within development limitations inherent in a major city.

Unlike Austin, and to a certain extent Albuquerque, New York is not looking to address a newly recognized problem or opportunity, but rather to develop an affordable solution to transit problems that have been growing steadily for years. Intermodal planning difficulties stem not so much from lack of agreement of the benefits such a solution might provide as from the cost and political barriers that must be overcome to implement such a solution.

A number of insights emerge from the New York experience:

- Coordinating the efforts of relevant stakeholder regional transportation agencies is critical. As one of the participants in the implementation forum observed, several agencies responsible for various aspects of transportation planning in New York have enough power to keep a major project from being implemented, and none has sufficient power

and authority to implement an intermodal project through on its own. A coordinated, unified approach appears necessary.

- A "straw man" solution, such as the one suggested by the Queens Borough President, can be useful in surfacing an intermodal solution, and developing understanding and support. The ideas do not necessarily have to emerge through the traditional transportation planning processes. In fact, it could be argued that those processes, because of their modal or jurisdictional biases, are less likely to generate an intermodal solution to begin with.

- Transportation agency leadership is critical for moving the intermodal solution forward. The necessary planning and analysis, as well as the funding, needs to be coordinated by an agency seen as having responsibility for regional transportation issues. In New York, it appears that the MTA is the most appropriate lead agency to coordinate the planning and implementation, if feasible, of the Sunnyside intermodal facility.

- Generating understanding and support for the intermodal ideas is perhaps the most critical aspect of the local intermodal planning process in major metropolitan areas. An intermodal facility such as the Sunnyside Yard concept will be expensive, will have politically powerful interests that oppose it, and will have alternative large scale projects competing for the scarce funds available. Proactive marketing of the ideas will be necessary to overcome the potent political, institutional, and funding barriers.

APPENDIX G

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